DOCUMENT RESUME

ED 419 942	CE 076 582

TITLE	Integration of Work and Learning. Proceedings of the Workshop on Curriculum Innovation (2nd, Bled, Slovenia, September 1997).
INSTITUTION	European Training Foundation, Turin (Italy).
ISBN	ISBN-92-828-3440-9
PUB DATE	1997-09-00
NOTE	184p.
PUB TYPE	Collected Works - Proceedings (021)
EDRS PRICE	MF01/PC08 Plus Postage.
DESCRIPTORS	Adult Education; *Curriculum Development; *Education Work Relationship; *Experiential Learning; Foreign Countries; Job Training; *Partnerships in Education; Postsecondary Education; School Business Relationship; Secondary Education; Work Experience; *Work Experience Programs
IDENTIFIERS	France; Germany; Hungary; *Slovenia

ABSTRACT

This proceedings consists of 13 papers and 3 working group presentations from a 3-day workshop on issues of work-linked learning relevant for curriculum development. "Welcome" (Slavko Gaber, Peter de Rooij) is followed by two introductory papers: "Integration of Work and Learning: A Challenge for Both Schools and Companies" (Bernhard Buck) and "Integration of Work and Learning: A Challenge for Education and Employment Systems in Transition Countries" (Peter Grootings). "Summary of the Workshop" provides summaries of each of the papers that follow. The proceedings are divided into five parts. Part I, The Slovenia Day, consists of one paper, "Integration of Education and Work in Slovenia--From the Viewpoint of Theory and Practice" (Zdenko Medves, Janko Mursak), and a general discussion in the presence of the Slovenian Minister of Education, Vice Minister of Labor, and special guests from Slovenian institutions. Part II, How To Bring the Educational Institutions Nearer to Work?, contains three papers: "The Learning Potential of Work: The Challenge for Education in Hungary" (Andras Benedek); "The Learning Organisations: How To Bring Educational Institutions Closer to the Workplaces?" (Bernard Raynaud); and "The Integration of Work and Learning within a Network of Different VET [Vocational Education and Training] Locations (Schools, Training Centers, and Companies)" (Guenter Kutscha). Part III, How To Bring Learning into the Daily Work Procedures of Companies?, consists of three papers: "An Organisation of Work To Promote Experience-Based Learning" (Johannes Steinringer); "The Co-operation of Companies in the Framework of Training and Learning Partnerships" (Janja Meglic); and "What to Learn in Companies: How To Produce Goods or How to Satisfy Clients?" (Edwin G. Nelson). The three papers in Part IV, Didactic and Methodical Implications of the Integration of Work and Learning, are "Learning Skills or Problem-Solving: New Approaches in Curriculum Development" (Oriol Homs); "The Change from Instruction-Led to Experience-Led VET in Educational Institutions" (Gerhard Herz); and "Development of Teachers and Trainers for Integration of Work and Learning" (David Oldroyd). Part V, How To Implement the Concept of IWL [Integrated Work and Learning]?, has three presentations: "Working Group I: How to Bring the Educational Institutions Nearer to Work?" (Angelca Ivancic et al.); "Working Group II: How To Bring Learning into the Daily Work Procedures of Companies"?" (Frantisek Bartak et al.); and "Working Group III: Didactic and Methodical

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Implications of the Integration of Work and Learning" (Gerhard Herz et al.). A discussion follows each paper. A participant list concludes the report. (YLB)

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ED 419 942

Integration of Work and Learning

REPORT

Proceedings of the 2nd workshop on curriculum innovation

September 1997, Bled/Slovenia

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FOREWORD

In the EU Member States, issues of work-linked learning have become relevant for curriculum development. There is a consensus that work and work-related tasks can be a key learning and training source for a workforce capable of self-reliant action in uncertain and unstructured work situations and environments.

Therefore, the European Training Foundation organised a three-day workshop on the topic of "Integration of work and learning", which took place in Bled, Slovenia on 24 to 26 September 1997.

Its main outcome was that:

- education has to find a new understanding of itself: The institutional difference between education and occupation has to be reduced. Educational institutions have to adopt a work and life perspective in their educational processes and to discover the respective learning potentials.
- companies have to focus their attention on restructuring working processes and work places in such a way that practical work can be based on understanding tasks in their problem-solving and entrepreneurial aspects and learning becomes an essential part of their successful execution.
- the traditional educational process of being taught should be turned upside down: education should become a learner-determined process which could be well mediated through activities carried out in a context that makes sense to the learner and what matters to him.

The Foundation has also selected "Integration of work and learning" to be this topic around which a pilot project will be developed, based on close co-operation between Hungary and Slovenia. As the project has been started at the beginning of this year the workshop was seen as the official launch.

Thirty-five participants representing eight Member States, thirteen partner countries and three international organisations attended the workshop. The papers presented at the Workshop are reprinted in this volume as "Proceedings". The papers, when taken together, form an excellent framework for innovation which we hope will be used both as inspiration and guidance for curriculum change.

Bernhard Buck

WELCOME

Slavko Gaber
Minister of Education and Sport

Ladies and Gentlemen, dear Colleagues, it is a great honour to welcome you here in Bled on the occasion of the 2nd Annual Workshop of Curriculum Innovation with the promising title "Integration of Work and Learning". Firstly I would like to welcome Mr. de Rooij, the Director of the European Training Foundation which has chosen Slovenia for organising this workshop. At the same time I would like to greet the experts from the European Training Foundation, CEDEFOP, UNESCO, 20 partner and member countries and some other countries as well as the experts from Slovenia. The organisation of this workshop is the result of the long and, I believe I can say, fruitful co-operation between Slovenia and the European Training Foundation. Especially in the field of vocational education and training some tangible results have already been achieved. Examples are the Phare programme, the National Observatory and the Staff Development Programme. I am convinced that we will be able to maintain this broad co-operation over the next years. Let me emphasise how important it is for us, who are in the process of reorganising our curricula from pre-school up to university and are discussing curriculum development in a very concrete sense, that this workshop on curriculum development for vocational education and training is taking place in our country. We are all aware that very important issues are at stake. So, I hope that your discussions will be productive and result in a successful integration of work and pleasure in Slovenia. Thank you ladies and gentlemen.

Peter de Rooij
Director of the European Training Foundation

Thank you Minister for your very kind words and for honouring us by opening this conference. The meeting is to stimulate the discussion on content related matters of different kinds linked to the innovation of vocational education and training in many countries in Central and Eastern Europe. It is the first time that such a workshop has been held outside Turin and it is a pleasure to do this in Slovenia. We are delighted to be here and use this beautiful and stimulating environment to pursue our discussions on this topic. I would like to begin by thanking our Slovenian colleagues who have spent an enormous amount of time and effort in setting up this workshop and finding these excellent facilities.

Allow me to also welcome the distinguished guests and experts from so many other countries. It's my opinion that an international exchange of ideas on this topic of vocational education and training is vital. As social dialogue is such an important aspect of vocational education and training, we are very grateful that the representatives of the social partners are amongst us and are willing and interested to take an active part in the discussions. Welcome to all of you and also to our colleagues from the international organisations. This really is an international meeting. In particular I would like to welcome Ms Zdenka Kovac, the Deputy Minister of Labour who has just arrived. I'm very grateful to you for coming especially since Labour and Education politics are so closely linked when we are speaking of vocational education and training.

The workshop we organised last year in Turin on qualification challenges in partner countries and member states - that's our jargon - was the starting point for a series of conferences organised by the European Training Foundation on curriculum innovation. We intend to make this into a kind of tradition and follow it up with a workshop every year. The main outcome of the Turin workshop was to create an awareness of the difference between curricula that aim at the production of skills and know-how and curricula that address the problem-solving abilities for students and graduates. The capability to act under conditions of uncertainty which, as all of us are aware, is a condition when you have to work in the market economy. Development of such problem-solving skills requires an integrated environment of work and learning. And it is important to choose the content of teacher training and in effect to define the way teachers function and address their students' problem-solving abilities. These were the key issues of the Turin workshop. As the topic for the next couple of days we have chosen Integration of Work and Learning. This seems to me a natural next step in this discussion on curriculum innovation. From the conference in Turin, we also had, what I consider to be the good idea, of organising a project that will deepen our knowledge of this aspect of curriculum innovation, namely the integration of work and learning. We are very happy that two neighbouring countries, Slovenia and Hungary, will host this project which will start shortly. In a certain way this workshop is a last preparatory meeting before the take-off happens.

Why this workshop? Within the European Union Member states issues concerning the integration of work and learning have become more and more relevant as aspects of curriculum development. There is a consensus, I think, that work and work related issues can be seen as key learning and training sources. It's needed for a workforce that should be capable of self-reliant action in, as I said before, uncertain and unstructured work situations and environments. After upgrading people with these types of skills, the next step in solving the unemployment problem is very clear - especially for young people. If self-reliant action in uncertain and unstructured situations is the aim, then there are essential conditions to be met by education and training institutions and by companies. Otherwise they cannot attain a workforce who is able to cope with the new conditions, the new circumstances, and the new challenges. In a certain sense, education has to find a new understanding of itself.

The institutional difference between training and education on the one hand and occupation on the other has to be reduced. In fact you cannot see them as two separate worlds anymore. Educational institutions have to have a worklife that is a real life perspective within their educational processes and in how they co-operate and integrate with the working part of society. Companies, the other part of this duo, so to say, have to focus their attention on restructuring the work processes and the work places in such way that the students' practical work can be based on understanding concrete tasks in real life problem-solving and the entrepreneurial aspects linked to these tasks. Learning becomes an essential part of successful execution of tasks within companies.

Lifelong learning is a concept that is being accepted more and more. The traditional educational process of being taught should, in fact, be reversed. Education should become a learner-defined, student-oriented process which should be conveyed through activities in a context that makes sense to the student and matters to him/her. A transition is needed from the passive process of being taught towards active problem-oriented learning, centred on the needs of the students that is to say the future actors in economy and society.

Other necessary conditions for well established systems of workforce competence relate to a well functioning labour market. Education and training and functioning of the labour market become more and more connected and interrelated and that is why the social partners have to get more and more involved in the development and in the functioning of vocational education and training systems. That is why we are so happy that both the Minister of Education and the Deputy Minister of Labour are here together. For also they co-ordinate their activities on learning and employment in order to solve the problem of unemployment through educating better skilled people. Hence their work is becoming more and more interrelated as most of you know very well.

Our workshop will deal with three main questions:

- How to bring the educational institutions nearer to the work place?
- How to bring learning into the daily work processes and procedures within companies?
- What are the didactic and methodological requirements for integrating work and learning?

It requires completely different curricula as most of you know but the question is how to establish them. This workshop is an important component of the European Training Foundation's efforts and growing expertise to assist Central and Eastern European countries in their reform processes especially those linked to vocational education and training. The European Phare programme, that all of you are very well familiar with, has made a vital contribution to the reform of vocational education and training in many partner countries. But, and I think it's clear to many of us, as here "I am preaching to the choir", it should be stressed that the development and adaptation of vocational education and training has not come to an end and should not stop now. We should continue adapting the system because the society and economy that it is supposed to support is changing every day.

The European Union and the Commission have established a number of programmes that support your countries in Central and Eastern Europe in this process of development and I am sure, will continue to do so. And the European Training Foundation is ready to continue supporting this process. The Agenda 2000 includes an analysis of the problems and capabilities of all countries that are in the process of accession and from there we can extract a number of points we should focus on. These are first of all, and it can't be mentioned often enough, the enhancement of the role of social partners in the development and the implementation of a policy for vocational education and training. Secondly, there is the development of a new architecture of lifelong learning and training during the whole period of the working life. And finally, we need a better integration of the dimensions employment and training by reinforcing the links between the schools and the business sector - the main topic for the workshop in the next couple of days. And, of course, there is also the challenge of fostering the continuing training of the workforce. To a certain extent, our workshop will focus on all these aspects but the third one, the integration i.e. the reinforcement of the links between the school and the business sector, is the most important.

In a modest way the previously mentioned project can help where Hungary and Slovenia will co-operate. Of course the results will be made available to all those who are interested. One side effect of the European Training Foundation's efforts is that this co-operation will attract attention to the need for this integration. Trans-nationality is an important feature of many European Union funded programmes, also the one you all are familiar with, the Leonardo programme. Our work and the Leonardo projects can lead to experience with EU funding rules and practices, something that is becoming more and more relevant the closer the accession to the European Union becomes a reality.

One final remark. I think this workshop and the Hungarian/Slovene project I have referred to, take place in the context of accession policy which dominates the agenda of many governments not only in Central and Eastern Europe. In the next couple of months very important decisions will be taken linked to these aspects of accession. The European Training Foundation has been called upon to play an important role in supporting these further developments of vocational education and training which is an important aspect of the developments that still have to take place in the next couple of years before accession becomes reality. We will seek to maximise the use of Phare funds in our existing Phare programmes and in the latest steps of their implementation as well as in the follow-up of new Phare VET programmes that have already been agreed by the European Commission. We will endeavour to ensure that these activities and new programmes are truly complementary, build upon past experience and add new elements that are more directly linked to the need that stems from accession. For example, in Slovenia, the present Phare programme is coming to an end and, as you are aware, with very positive and interesting results. The success of the reform that started a couple of years ago and the modernisation of secondary and post-secondary vocational education and training shows the strong commitment of the Slovene government to set-up an operational vocational training system which can meet the requirements at EU member state level and maybe already does. The Slovene proposal that has been discussed with the European Training Foundation will be finalised in the Phare committee very soon and the next follow-up project will integrate new orientations and emphasise the preparation of Slovenia concerning VET to accede the European Union. Moreover, the European Training Foundation will organise various activities in many other countries. In the next couple of weeks we will start, in some of your countries, to prepare and further develop ideas on transparency of qualifications and the role of social partners as well as to organise an accession forum, as we call it, on mechanisms of the European social fund and all the activities that are linked to regional development. We have a rich work programme for next year. In addition there is our involvement in the Leonardo programme. There, on behalf of the European Commission, we are organising a number of preparatory measures, a conference and dissemination activities.

The commitment of the European Training Foundation to the case of vocational education and training is also underlined by another major activity that we have started and are now implementing. This is the set-up of a national observatories network in all of our 26 partner countries. National observatories are small units embedded in existing organisations - it can be a ministry, it can be a training or research institute. It is never isolated and is a small institute that has competence and develops further knowledge and expertise on the links between education/training and the labour market in order to support the development and implementation of reform policies. In a certain way, national observatories are our eyes and ears in each of the partner countries. They serve not only the European Training Foundation but all 25 other partner countries. All of you should try to learn more about developments in "colleague" countries, if I may call them so, and gain from the experience in many projects and developments that may be very similar to the specific situation in your own country. Rest assured that the European Training Foundation will continue to fight for the vital cause of vocational education and training in programmes and projects.

To summarise, I feel convinced that you will have two very interesting and demanding days. I hope that all of us will be rewarded for our efforts and that our clients, that is to say training institutes, teachers, students in vocational training schools, employers and social partner organisations in our partner countries will benefit from the outcome of this workshop. It is for them and the better functioning of, let's say, skilled people on the labour market that we start this conference now. I wish you a very pleasant and, above all, very fruitful conference and hope that I can be an active participant for at least part of it.

Thank you!

INTRODUCTORY PAPERS

Integration of Work and Learning:
A Challenge for both Schools and Companies
Bernhard Buck

Integration of Work and Learning:
A Challenge for Education and Employment Systems in Transition Countries
Peter Grootings

INTEGRATION OF WORK AND LEARNING: A CHALLENGE FOR BOTH SCHOOLS AND COMPANIES

Bernhard Buck

In vocational pedagogy the desire to integrate work and learning is not new. The basic pedagogic idea underlying this integration is that learning is not abstract and theoretical but achieved by action in realistic situations. This interpretation of learning has been part of vocational education almost since its beginning. Already in the early stages there was a vanguard of VET[*] protagonists who promoted an autonomous vocational education theory. Their educational ideal was to educate self-reliant citizens by developing the ability to act based on (in modern terms):

- *self-confidence,* i.e. the ability to perceive uncertainty as a possibility for creativity;
- *communication,* i.e. the ability to express one's point of view, to honour the opinion of others and to come to agreement;
- *the ability to shape reality,* i.e. to find a particular solution fitting the circumstances.

1. The traditional education paradigm

Until today, this concept has only been rudimentarily implemented. So a challenge remains for all those who want to develop personality through vocational education. A main reason for the general lack of success is that many vocational education systems still use learning and teaching concepts based on the standards of general education which are rooted in the humanistic education paradigm "education is learning through theoretical understanding". As a consequence it assumes that :

1. only the school can provide and guarantee the prerequisites for a modern place of learning;
2. personality can only develop in a learning environment far removed from utilitarian considerations;
3. the ability for mature judgement, the aim of personality development, can only be achieved by theoretical reflection on the realities of the world.

(1) From this standpoint the topic of the workshop obviously attempts to bring together two opposed spheres each built on its own education paradigm and therefore, organised differently. Scholastic vocational education has made this type of education "public" and "individual" and hence, realised the two basic principals of modern society. Publicity has been achieved by bringing vocational education into the school and so transferring responsibility from the guilds and professions to the state. Individualisation has become possible by taking training out of the closed social system of the "family business" and differentiating it according to labour market requirements.

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[*] Vocational Education and Training ; in this paper we will generally use "vocational education" for school-based VET and "vocational training" for in-company VET.

The scholars of humanistic education criticise the business world for still being guided by a pre-modern feudal labour organisation and trends towards collectivisation. They can point out still existing practices which exhibit a company as a Fordist factory for fast production of standardised goods at low unit cost. In their opinion the internal company structure cannot really be made public and individual as it is based on criteria of economic efficiency. In this type of organisation, space for developing ability to act is kept to a minimum. Hence, this type of company organisation counteracts the basic principles of modernity and the objective of all education which aims at shaping a self-determining personality for its own sake. It does not "empower" its workers to use their own judgement

(2) Within the scholastic education system vocational education has remained the poor relation to general education. The traditional argument is that vocational education betrays the ideal of personality development in favour of "programming" young people to function as required by procedures. This accusation has still not lost its social impact, as can be seen from the decision of many young people and parents to give preference to general education. Under these circumstances, the decision to open the school to the uncertainties of the labour world and especially to respond to its concrete problems seems too risky for many supporters of scholastic education. On the contrary, their objective remains to overcome the dichotomy between general and vocational education by assimilating the contents and structure of the latter to those of the former.

(3) According to the traditional argument it is only by reflecting theoretically on the realities of the world that one can develop a self-determining personality. Applied to scholastic vocational education this means that it should deal only with the theory of a vocation i.e. only with those subjects which can be transferred within the professional field via intentional teaching/learning and a deductive approach.

We will not discuss the historical background on which this paradigm has developed. However, it should be said that it has much to do with the classic idea of a "worthwhile life" and its loathing of the restrictions and necessities arising from labour. This attitude is not unfounded as long as labour is organised in strictly hierarchical terms and the worker has no room for at least partial self-realisation. In this situation the school is the only social institution able to fulfil the right to education. This remains true today, if industry, commerce and craftsmen cannot offer their employees more than simple routine work with little potential for learning and free action. In such circumstances it would be counterproductive to propose the integration of work and learning.

In the Central and Eastern European countries the topic of integration of work and learning is also burdened by history: most partner countries had implemented a special version of integration of work and learning: a seemingly dual system where the vocational school however was part of a state-owned company. The school did not fulfil a social mandate for education and represented no counterweight to the work in the state-run companies strictly organised along Fordist lines. The school was the agent of the company helping to train a workforce according to its organisational needs. It is not surprising that today's vocational school burdened with this past finds it difficult to be considered as valid an educational institution as the general school which was spared this fate. At the same time this experience discredited the idea of integrating work and learning, because companies used it only to train skills for narrowly defined jobs. Nevertheless some work experience and learning by doing took place, but for a different

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reason. Because of the permanent lack of parts and the relatively low technology level of the products, the workers always had the opportunity to search for ad-hoc solutions to specific production problems (Grootings, 1998).

Summing up we can state: with regard to autonomous vocational education, it could be desirable to open scholastic education towards something able to give it a focus for contents and methods - viz. concrete work experience. However this attempt is historically burdened on the one hand by the humanistic education paradigm giving credence to the dichotomies:

- school - company
- general education - vocational training
- theory - praxis.

On the other hand there are experiences from the labour market which have proved counterproductive.

Following on from this we will show why it is important for vocational education to re-think previous views and to dare a new attempt of integrating work and learning on a high level of quality.

2. The role of the vocational school in the economic change process

The distinct de-conventionalisation in all aspects of life forces the individual to develop attitudes and abilities to act and modify them over time. This process continues throughout life. The school has to prepare for this life-long learning. It must instigate not learning targeted at functional adaptation but learning that opens up opportunities for personal development and self-determined shaping of one's life. Personality development as the basic task for all education cannot be seen as separate from the objective to enable the individual to participate in social life. For vocational education this means: it has to achieve personality development in such a way that the individual can actively participate in the change process and also in shaping new perspectives in economic and working life.

For scholastically oriented vocational education this poses a problem which it can hardly solve if left to its own devices. It is a hallmark of traditional vocational education that it resorts to a comprehensive syllabus based on the idea of complete knowledge. This puts students and teachers under permanent learning/teacher pressure to present and acquire knowledge. Yet, in the industrialised countries it is less and less sufficient to simply apply the knowledge accumulated at school. The market demands experts capable of flexibly and creatively using their know-how and skill in concrete professional situations and treating both - knowledge and ability - as tools for either solving problems in a team or motivating others to find solutions and assisting in their implementation.

Under the aspect of life-long learning the school (especially at secondary level) is only one instance of learning among many listed in an individual's CV. Therefore the school has to develop a completely new view of itself:

- On the one hand, the realisation that today initial education no longer represents complete VET but is only the entry phase of a multi-stage learning sequence greatly reduces the above-mentioned learning/teaching pressure, as there are institutions for subsequent continuous education better equipped for certain subjects.
- On the other hand, the school has to realise that the student will not be able to acquire the ability to act in concrete situations solely through the contents and methods offered by the school. As it warrants the public nature of education, the school remains an indispensable place of learning and may even become more important as the relations and interconnections in modern society become more complex and incomprehensible. However, the more the business and the labour markets demand a ability to act which is mainly learned by dealing with concrete work situations the more traditional schooling will become insufficient.

3. Work quality in companies

As we know, not all types of jobs contain the qualities that the student needs to acquire the necessary ability to act in the work process. In general it can be said: the job definition determines the qualitative contents of work and hence its learning potential. Therefore, work organisation is the decisive criterion for defining the learning potential of work.

In its work organisation the company has to present a minimum level of complexity in the job structures and of empowerment in order to become a place of learning and thus a suitable partner for vocational schools. This level cannot be reached by a company whose production processes are fully defined by their technology, strictly pre-planned to the smallest detail and narrowly controlled by management. The same applies to a craftsman's workshop if it organises its work in such way that the juniors and the apprentices only carry out operations completely prescribed by procedures.

In line with the reality of work organisation, also in the Western industrialised countries vocational training was implicitly oriented along the lines of Fordist work structures. Vocational training was seen as a field of functionally differentiated qualifications for acquiring the know-how and skills necessary for direct technical execution. Its basic idea of learning started from a fixed and closed syllabus and a curriculum organised for its teaching. It was addressed to learning results in terms of controllable reproduction of knowledge and neglected the learning experience process as such.

In the eighties, the traditional industrial organisation models reached their limits of efficiency and this Fordist production model had to be expanded. As a consequence the labour market looked for qualified workers who could do more than master certain techniques and execute pre-defined procedures. Now the worker was supposed to make his own decisions concerning the methods necessary to carry out a certain task. For VET, this led to the request that a qualified worker be capable of planning, executing and controlling his work autonomously, a capability defined as action competence. Adopting this educational objective implicitly requires learning processes which are student-controlled and provide "completeness" concerning the targeted competence: For a set technical task the trainee has to draw up a clear plan, perform objective oriented execution and check his procedures and solutions.

The present discussion starts from the observation that the economy in the Western industrial countries is undergoing a deep change process particularly due to the growing pressures of globalisation. This is thought to put into question the traditional labour model. Labour is no longer defined as a production process but as a service because we learn from the market that:

- In the end the customer never pays for a product as such but always for a solution to his problems or the satisfaction of his needs. His interest in the product is limited to its usefulness for solving his specific problem.
- Market success is not decided by the product's competitive advantage on an objective technical level but by the degree to which the customer subjectively perceives this.

Because of this change in the understanding of labour, work is no longer primarily conceived as a relation to things but as relation between people. Technically perfect production is still a necessary but no longer sufficient condition for the competitiveness of a company. This has far-reaching consequences for job organisation which we cannot deal with in this paper (Buck, 1996).

Vocational education and training does, however, face a considerable challenge for a new didactic/methodical orientation. This new understanding of work requires exactly the ability to act that we described at the beginning and which has, until now, not been provided by vocational education. This ability to act:

- concerns the individual as the work process is to a great extent co-defined by his perception and evaluation of situations and by his decisions;
- regards perception and interpretation of all circumstances of a situation. The purpose of an action is often not pre-defined but arises only as the situation evolves;
- can, by definition, only be acquired within the contexts and situations of the world of work;
- cannot be learned once and for all in initial schooling but is developed through life-long learning processes founded during initial education and training.

Even though the economies of the partner countries are not yet in the same situation, the medium- to long-term perspective seems to point in the same direction. This evolution not only changes economic conditions but has an impact on people and institutions - the entire consciousness of society. People who are partially freed from the chores of day-to-day existence are able to articulate their needs. Along with this comes a diversity of lifestyles and a new value orientation which has a great impact on the attitude towards work. The individual has become important. People want to be taken seriously. Social relationships have become more crucial than subject-oriented requirements. All of this is leading to a situation which can be described as "individualisation in the attitude towards work". Thus, in view of these tendencies towards work, vocational education and training in the partner countries should start now to develop a perspective towards this new quality of work which continues to gain ground in Western countries. Indeed, what does this mean for schools and companies?

4. Co-operation between school and company

Only the school and business together can provide the student with a basis for the above-described ability to act and to develop it. This co-operation between school and business poses a challenge for both:

- from the school's perspective - accepting the company as a place of learning, i.e. as a generator for experience oriented learning;
- from the perspective of business - to open the school to the labour world and to reform it accordingly,
- for both - conceptualising a new integrational education model: the learner should as much as possible perceive that what he learns is meaningful to his personal situation.

In the following we will deal with the essential preconditions for a stronger co-operation between school and company (Walden and Brandes, 1994).

4.1 Forms of co-operation

Alliances for mutual benefit and as a starting point for further developments

The first step is to establish informal personal rapports between the teachers and the business managers. The purpose is to reduce mutual prejudice and to develop common interests for an eventual co-operation (Weilnböck-Buck, 1994).

The next step would be to create structures within which co-operation can develop. This could be round tables, committees and task forces which could form a forum for establishing contacts between school and business and for working out concrete co-operation steps.

Institutionalising co-operation

Common work based on personal efforts and relations is not sufficient for long-term effective co-operation in educational politics. In order to reach this objective it is better to set up local or regional institutions or to use those already in existence whose task it would be to systematically develop the co-operation between school and company. These institutions would have a role in supporting and advising those interested within the schools and companies. It is important that these institutions realise the intention of the co-operation effort and bear in mind the interests of all those involved. In addition they should seek contact with other institutions such as universities, continuous education institutions, technology centres, chambers of commerce but also to members from the professions and use them to pursue their objectives systematically. They could provide a platform for workshops and seminars in which the participants together develop new forms of co-operation.

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Legal based co-operation

In the long term the most forceful way to support the integration of work and learning in vocational education is a vocational education law that defines business and school as equivalent and interdependent places of learning. Experience shows that such a law remains ineffective until the following important cultural, institutional and market-strategic preconditions are fulfilled (Stanojevic, 1997).

- In social terms a work culture respecting the value of practical professional work at blue collar level is required.
- The determined will of all participants - employers, employees, vocational schools and state institutions - to implement such law is needed.
- The country's economy should not be predominantly based on low price products and services. Only in a varied economy can the companies offer sufficiently complex work situations which are necessary for acquiring individual ability to act.
- The work organisation in the companies should warrant that the employees at operational level have room for decision-making so that they can solve wider problems autonomously.

However, no law can guarantee day to day co-operation of the partners at the place of learning. The trend for these entities to partition off can only be overcome by a process of active co-operation supported by various initiatives.

4.2 Opening the school's syllabus for the problems in praxis

Practical further training of teachers in companies

If the ability to act is the objective of vocational education and training, it is ineluctable to make it the didactic and methodical concern in vocational schools by stressing learning by doing. Already in the school the students have to be confronted with action tasks and not only with theoretical exercises. As a consequence, training can no longer simply be constructed according to operationalised learning objectives or skills and knowledge transfer but must contain a series of relevant action situations. In future this could lead to a new formulation of the curricula.

Whether action oriented education in the school can really make a contribution to the development of the required ability to act, depends on the degree to which a systematic co-operation is established and the school, not only sporadically but structurally, succeeds in selecting practical problems from the spectrum of in-company tasks and developing them in relation to the required ability to act. A first step in this direction would be an in-company work experience for teachers.

Another step is to develop and implement learning forms requiring a co-operation between school and company. This could be started by sending students on fact-finding missions into companies and lead to training projects combining both places of learning.

Such co-operation and content requires considerable preparation by the school. The teachers especially have to change their attitude towards both the working world and their students:

- As teachers spend almost their whole life ("from six to sixty") at school, they tend to see practical training phases only in terms of their contribution to the scholastic curriculum.
- In addition they tend to develop a "mothering" attitude towards their students. They feel responsible for them and find it hard to delegate responsibility to them.

A necessary condition for such co-operation therefore, is a new orientation of continuous teacher training which:

- familiarises the teachers with the business world,
- prepares them for a new understanding of their role in their relation to the students and
- provides them with a didactic/methodical action oriented teaching.

Research and development projects

Practical co-operation activities need support and impetus from vocational education research. Pertinent examples are politically sponsored research and development projects such as the three-year Transnational European Training Foundation Project in Hungary and Slovenia for Integration of Work and Learning starting in 1998. The essential objective of such projects is to define the conditions for high quality co-operation in terms of organisation and contents, to work out and implement exemplary solutions and to disseminate the results within the target country but also in other partner countries.

Developing innovative learning material

Curriculum research has the important task (possibly involving teachers and company managers) of analysing work situations which are suitable starting points for learning processes. The material so gained would have to be prepared in such a way that the students can contribute their knowledge, their interpretations and experiences. This would motivate them to reflect on their own personal and professional situation. Experience shows that this is possible, if curriculum research considers the following aspects in developing the teaching material:

- The material gained from in-company praxis should contain key situations from the students' field of practice and should prompt them for problem solving, discussion, learning and acting. The material should not provoke only pre-defined solutions in terms of "right" or "wrong".
- The teaching material should not simply mirror the field of praxis. It should make clear that praxis is always unpredictable. At the same time the contents should be presented with all their aspects so that it offers the student possibilities for individual approach and expression.
- The material should address the student in many ways. It should alternate between active tackling of problems and moments of reflection, between questioning and accepting, between associating and systemizing as well as between acquiring knowledge and developing own ideas.

In conclusion we would like to emphasise that the development of co-operation between school and company (regardless of which form it takes in the particular case) always has to be a permanent process which does not normally lead to a pre-defined and precisely predictable result. It is a learning process for all participants during which mistakes will be made and setbacks must be expected. The forms and contents of co-operation will be very different according to the circumstances and the personal interest of the co-operation partners. Nobody should assume that there is a panacea for achieving good co-operation between schools and companies.

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INTEGRATION OF WORK AND LEARNING: A CHALLENGE FOR EDUCATION AND EMPLOYMENT SYSTEMS IN TRANSITION COUNTRIES

Peter Grootings[1]

1. Introduction and background

In 1996, the European Training Foundation organised a workshop on "Qualification Challenges in the partner countries and Member States". This workshop primarily focused on ways of including general competencies such as "problem solving" into curricula for vocational education. The participants concluded that in order to achieve this it would be necessary to establish closer links between work and learning. (European Training Foundation 1996).

In the next point a brief overview of the debate about the challenge posed by integration of work and learning (IWL) is presented. This review shows that the challenge goes far beyond the domain of curriculum development *per se*. It is part of a more profound transformation of employment systems into modern market economies. Since most of the recent debates about integration of work and learning have originated in Western industrialised countries, the relevancy of this debate for the transition countries of Central and Eastern Europe will have to be addressed. This topic is covered in the third point. The fourth and final point puts forward conclusions for a possible new European Training Foundation project on integration of work and learning.

2. The challenge of integrating work and learning

2.1. Renewed interest in an old issue

At a recent OECD workshop on the future of the apprenticeship system, Vincent Merle remarked that "the desire to combine practical and school-based learning experiences is neither new nor original; it would be hard to find a pedagogical effort that does not share this ambition to some degree. The fact that many training institutions are now making explicit demands for alternating training above all suggests that it promises a solution to the problems now confronting the educational system" (1994a: 29; see also Carton 1984).

But if IWL is not a new phenomenon which serves so many different purposes, what then is it that makes it so topical now? Basically, that it seems to be a good (if not the only) response to the emergence of new types of knowledge, resulting from different uses of technology and work organisation by management of enterprises. This is a development that has already been noted for some time by researchers from western industrialised countries (e.g. Kern and Schumann, 1984). Modern firms are seeking individuals for their workforce who are able and willing to:

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[1] This is a shortened version of a report prepared for the European Training Foundation. I would like to thank Bernhard Buck, Janko Mursak, Martina Trbanc, István Bessenyei and Györgi Mártonfi for their remarks on earlier versions.

- carry out more difficult tasks competently and to a large extent autonomously
- react in the right way to unforeseeable problems
- take over real responsibility by themselves or with other team members for a specific - smaller or larger - work sector
- develop their own skills so that they can continually meet new or fundamentally changing demands.

2.2. Educational policy responses

Educational policy makers in most industrialised countries have sought to find the proper responses to these emerging trends. As a result, many countries have undergone - and indeed are still undergoing - quite radical reforms of their vocational education and training systems (OECD 1994b). Countries that traditionally had not given much attention to vocational education have started to invest heavily in improving the skills of their workforce.

A core issue for educational reform measures is to increase the competence level of national workforces. Above all this has led to greater attention being focused on:

- learning processes and learning results rather than on educational inputs alone;
- the assessment and recognition of individual competencies (know-how) rather than formal knowledge and diplomas;
- increased involvement of social partners in governance and provision of vocational education and training to ensure its relevance to the labour market;
- the recognition of a diversity of learning environments;
- investments in overall quality control to secure educational and labour market mobility (Grootings 1994; Collardyn 1996; Bertrand 1997).

In the US, for example, recognition of these developments in 1994 led Congress to pass the School to Work Opportunities Act. STWOA promotes the development of work-based learning defined as "learning that results from work experience that is planned to contribute to the intellectual career development of students." The work experience is to be supplemented by activities which apply, reinforce, refine, or extend the learning taking place during work, so that students develop attitudes, knowledge, skills and habits that might not develop solely from work experience (OTA: 1995).

Most EU countries have initiated far reaching changes in their existing VET systems as well. Bernhard Buck (1997) argues that vocational education systems have generally used - and continue to do so - learning and teaching concepts that are based on the humanistic education paradigm that "education is learning through theoretical understanding". This has led to the belief that:

- only the school can provide and guarantee the prerequisites for a modern place for learning

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- personality can only develop in a learning environment far removed from utilitarian considerations
- the ability for mature judgement, the aim of personality development, can only be achieved by theoretical reflection on the realities of the world.

The traditional education paradigm has also led vocational education to adopt the principle of a comprehensive syllabus putting continuous pressure on teachers to present and students to adopt more and more knowledge. This paradigm is increasingly being proved obsolete when confronted with the background of changes in work and employment. Schools, as Buck argues, are to develop a new identity:

- the realisation that initial education today represents only the entry stage of a multi-phase learning process, greatly reduces the need for comprehensive syllabuses as there are institutions catering for continuous education that may be far better equipped for certain subjects.
- schools gradually realise that students are not able to acquire the "ability to act in concrete situations" solely through the methods and contents offered by the school.

This is the background for the present search for innovations in contents, methods and organisation of vocational education. The school is not losing its place in society but it is no longer seen as the only institution and location for work-relevant learning. However, in each country the education system is intricately related to the employment system. Changing schools, therefore, is conditioned by, and has implications for, other institutions in society (Maurice a.o. 1982).

2.3. Societal and institutional context

Lutz noted that the new skills now in demand are strikingly similar - albeit on a considerably higher technological level - to the traditional profile of the practical, mainly "manual" trades. Thus, the new discovery of "professionalism" in contrast to the pervasive de-skilling by means of traditional taylorist work organisations of the past. (OECD 1994a: 22)

However, the very developments in corporate structures that request such new professional skills within the workforce make it at the same time more and more difficult to acquire these skills in the traditional way inside the firm on internal labour markets. When enterprises reduce their vertical, horizontal and functional division of labour, there remains little opportunity for gradual learning during the working career. Consequently, workers of this kind have to be available on the external labour market (as a product of vocational education systems).

These changes in work organisation and corporate structures are responses to increased international competition. Due to the high level of wages the industrialised countries are moving away from mass production and tending towards flexible production of high-value goods and services. Therefore the employment structure becomes inherently unstable. This requires employees to be flexible on the external labour market, without fearing a loss in occupational status and income.

Both requirements - availability of skilled workers on the external labour market and their flexibility on this market - can only be met, as Lutz rightly stresses, if a well-established

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system of "professionalism" exists in a country. And that means that those who are trying to "re-professionalise" lower level work must focus their attention on the social and organisational conditions underlying traditional occupational systems (and not only on the details of syllabuses and the organisational details of "alternance" systems). The success of any such policies hinges on whether these conditions can be reproduced or whether functional equivalents can be found for them." (o.c.: 24; see also Maurice a.o. 1982)

Lutz mentions three essential conditions, of which only the first one is educational in nature (and not elaborated on further by the author):

- the existence of a real "pedagogic" or learning environment in everyday industrial life
- the attractiveness of operational, "manual" occupations (*Berufe*)
- the existence of well-functioning occupational labour markets.

The second condition indicates that the greatest difficulties are not actually with the education system but with employment structures: "Without radical changes in salary scales, in non-monetary working conditions and rules, systems and habits of classification and promotion, any attempts to upgrade practical vocational training are bound to fail". These attempts are also bound to fail, Lutz remarks, "if the intention is simultaneously to use the necessary reforms in education to do some good for low achievers who are the victims of the school system.."

The third condition asks for labour markets in which:

- workers with defined and specific skills and competencies (specific expertise) are available and in demand;
- at least the core skills of available and demanded qualifications are known to all the market partners and can be taken for granted by them;
- these core skills guarantee that newly recruited employees rapidly - at most after a short training period - reach high productivity under variable company contexts and conditions;
- employees with these core skills may expect the job on offer to comply with a more or less explicitly defined set of minimum standards of working conditions that are normally applicable to the occupational sector in question.

Such markets do not emerge naturally, nor can they be expected to develop more or less automatically as a consequence of innovative education policy which aims at strengthening "vocationalism" and "professionalism".

Méhaut and Delcourt (1994), in summarising the outcomes of a comparative analysis of a series of case studies on the training impact of enterprises, have shown how difficult it still is for firms to create a learning environment in the workplace. They also showed how much this capacity is dependent on general characteristics of national education systems and labour markets.

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2.4. *The learning organisation*

From the foregoing, it is clear that the integration of work and learning has not only become a challenge for educational institutions seeking to preserve, restore or increase their relevance versus new labour market requirements. There is a consensus that also the firms have to integrate continuous learning in their work environments in order to be able to respond flexibly to changing market developments. The concept of the "learning organisation" has been discussed since the beginning of the 1970s but has only gained additional prominence since the early 1990s both among educators and business people. (Stahl a.o. 1992)

Senge, who initiated the recent discussions about learning organisations with his "Fifth Discipline. The Art and Practice of the Learning Organisation" (first published in 1990) defines a learning organisation as - an organisation that is continually expanding its capacity to create its future. For such an organisation "it is not enough merely to survive. 'Survival learning' or what is more often termed 'adaptive learning' is important - indeed it is necessary. But for a learning organisation, 'adaptive learning' must be joined by 'generative learning', learning that enhances our capacity to create." (Senge, 1994: 14) This can only be achieved if the workplace offers a high learning potential and workers are placed in a position to make use of this.

Building a learning organisation, at least in the view of the Harvard group around Senge, means much more than improving the skills and qualifications of workers. It affects the whole management structure of an organisation. The most important innovation to be achieved is an infrastructure that will enable people to develop capabilities within the context of their jobs. "Until people can make their 'work space' a learning space, learning will always be a 'nice idea' - peripheral, not central. (o.c.: 35)

But using the work space as a learning space has become extremely different from traditional on-the-job learning because of the increased complexity of work situations as part of complex systems. This complexity is not the result of an increase of details ("detail complexity") but due to the fact that the effects over time of interventions in the work process are no longer obvious ("dynamic complexity"). One needs an understanding of the overall system in order to be able to decide on the nature of intervention.

While the learning organisation is seen as a necessary response to changes in the organisation's environment, there is little or no attention given in this approach to the interrelationships between internal organisational development and national education and labour market policies. An overall policy perspective can be found in the new debate about lifelong learning.

2.5. *Strategies for lifelong learning*

The scope of integration of work and learning has been further widened by the recent discussions on lifelong learning (OECD 1997; EU 1995). As a result, the debate about IWL now not only includes space dimensions (institutional location, society and system) but also the dimension of time. Integration of work and learning is no longer an issue pertinent to a specific period of (preparation for working) life but now spans the whole life cycle of every individual. As a consequence, problems of IWL cannot be confined anymore merely to the particular institutions of vocational education and training. The concept of lifelong learning embraces individual and social development of all kinds and in all settings - formally, in schools, vocational, tertiary and adult education institutions, and non-formally, at home, at work and in the community (o.c.: 15).

All education ministers of OECD member countries have accepted the crucial importance of learning throughout life for enriching personal lives, fostering economic growth and maintaining social cohesion, and have agreed on strategies to implement it (o.c.: 21). Such strategies, ministers concur, need a whole-hearted commitment to new system-wide goals, standards and approaches, adapted to the culture and circumstances of each country. They should include:

- strengthening the foundations for learning throughout life by improving access to early childhood education, particularly for disadvantaged children, revitalising schools and supporting the growth of other formal and non-formal learning arrangements;
- promoting coherent links between learning and work, by establishing pathways and bridges that will facilitate more flexible movement between education/ training and work, aimed in particular at smoothing the initial transition between the two, and by improving the mechanisms for assessing and recognising the skills and competencies of individuals - whether they are acquired through formal or non-formal learning;
- rethinking the roles and responsibilities of all partners - including governments - who provide opportunities for learning;
- creating incentives for individuals, employers and those who provide education and training to invest more in lifelong learning and to deliver value for money.

3. Experiences in transition countries with IWL

When considering a future project on the integration of work and learning in transition countries, the first question to be raised is: To what extent are the issues and debates described in the previous paragraph of any relevance to the countries of Central and Eastern Europe? We shall briefly explore the relevancy of integrating work and learning in transition countries.

3.1 Quasi-apprenticeship and the withdrawal of enterprises from vocational education

Until the late 1980s, most Central and Eastern Europe countries had developed, forms of "quasi-apprenticeship". (Grootings 1995) These were school-based forms of vocational education for basic types of mainly, but not only, industrial occupations with a share of practical work in enterprises or training workshops. Typically, the schools providing such forms of vocational education were part of the state enterprise structure. The periods of practical work were intended more to prepare prospective workers for their future jobs within these enterprises or state organisations than to provide practical training, in the proper sense of the word.

Preparing their own workforce used to be one of the responsibilities of state enterprises, and they considered this to be in their own interests. There was a constant need for hoarding labour imposed on them by unpredictable shortages produced by the centrally planned economic system. Enterprises were normally availed of relatively well-equipped training facilities, depending on the strategic role of the enterprises and its ministry within the national economy. Very often, practical learning was nothing more than simple productive work for the sponsoring enterprise.

Basically, all semi-skilled and skilled worker occupations had their place in this "quasi-apprenticeship system". In some of the countries the basic vocational schools were actually called apprenticeship schools, leading to much confusion among some of the western consultants that have flooded the countries during the 1990s. These schools also formed part of the compulsory phase of education and were free of charge for students in that they prepared them for their first occupation. When practice learning took place inside an enterprise, students received a small wage or compensation. Students were supposed to become employed by the enterprise after finishing their studies.

In all countries this system of "quasi-apprenticeship" has almost completely collapsed in the course of economic and enterprise restructuring. Vocational education has become far more scholastic than it used to be. One of the main priorities for educational authorities is to develop new forms of co-operation between schools and enterprises and to develop alternative forms of practical learning.

3.2 Quasi-taylorist work organisation and the role of experiential learning

Already in the 1980s Hungarian work researchers have pointed to some typical characteristics of industrial enterprises in their countries. Although formally organised along strict taylorist principles (reflected by narrow occupational profiles of operational workers and numerous technician and engineer positions), in reality, enterprises functioned largely on the basis of, and very often only thanks to, an informal structure of semi-autonomous groups.

The Hungarians called this phenomenon "quasi-taylorism" (Ladó a.o. 1989). Its causes were to be found in the typical shortage problems created by centrally planned economies where enterprise managers did not have any control over necessary resources (hence their continuous hoarding). For the production of low quality products, with low levels of technology, experienced production workers were always able to find ad-hoc solutions for production problems caused by the shortage of resources. Based on their practical technical skills, they were either able to use alternative methods or materials, or due to their developed social contacts within the organisation, they were able to organise production where hierarchy failed. Workers became skilled through work experience and experiential learning and not because they were properly trained. However, these skills were largely enterprise specific and without recognised value on the external labour market.

The new forms of work organisation that were developed in some countries during the 1980s were basically an attempt to institutionalise the central role of groups of core workers. These led to a further segmentation of internal labour markets and increased problems of transition from school to work for young school graduates. Subsequent enterprise restructuring left a whole generation of workers with low formal qualifications unemployed and difficult to retrain. It also further decreased access for young people to traditional enterprises.

3.3. VET reform: from solving the problems of the past to preparing for the future

From the above it is clear that the integration of work and learning has followed quite another logic under the conditions of centrally planned economies than it has done under market economy conditions. Exactly at a time when integration of work and learning has become a high priority, traditional relations between schools and firms are in crisis. This "systemic" character of education and employment institutions has to be taken into account when discussing further possibilities for IWL.

A fundamental characteristic of ongoing reforms in vocational education systems is that they still aim at solving problems that were inherited from the past, either in curriculum development and delivery, or in the structure of the educational system (gap between secondary and university education). In that sense, most of vocational education reform must be qualified as "adaptation" to changed conditions. Obviously, some countries are more advanced than others.

The amount of work to be done to solve the problems of the past should not be underestimated. And obviously, these reforms also include measures that are future-oriented or create opportunities to develop a more future-oriented policy (rebuilding of communication mechanisms between education and the labour market, development of national standards, increasing research and development capacities, stimulating innovation capacities in schools, etc.). However, there appears to be a serious absence of strategic future-oriented thinking of the kind that led to the STWOA in the US, or that brought experts and Education Ministers from OECD countries together to discuss the future of the apprenticeship system and lifelong learning for all. A future-oriented re-professionalisation of the workforce is hardly a topic for public debate.

3.4. The economic and social environment for IWL in transition countries

One reason for this state is the general economic situation in the transition countries. While overall, the economic situation is still difficult, it is possible to distinguish between sectors that are in crisis, those that doing relatively well and those that are being developed. Each of these economic sectors offers different prospects for IWL .

Obviously, the traditional large industrial and administrative sectors are in severe crisis. Most of heavy and mass industrial production has lost its guaranteed markets and is now faced with the challenge of becoming competitive (on price and quality) on open markets. The development of industrial restructuring is in full process (more advanced in some than in others) and there is little space here for an interest in IWL, the issue being rather "de-hoarding" of labour.

However, there are signs that individual enterprises that have succeeded in regaining a strong market position are increasingly becoming interested in restoring relations with vocational schools. It is not quite clear, however, whether this interest is based on the traditional principles of manpower provision and a reaction on the side of such enterprises to acute labour shortages resulting from the changed occupational interests of young people. Developments in the more traditional industrial sectors tend to indicate a restoration of forms of quasi-apprenticeship.

Better prospects appear to be provided by those sectors that are now undergoing strong growth basically because they did not exist before. One may point to various services; such as banking and tourism, but also to the whole crafts sector of private small and medium sized production and service providers.

In the new service sector, the needs for qualified staff have resulted in the relatively fast development of new educational programmes within the existing school system (sometimes of course by private initiatives) and by the emergence of in-company training. The crafts sector is now the domain where apprenticeship in its more classical form is being revived. Crafts chambers, often with the help of their foreign partner organisations, are taking the initiative here. It appears difficult to introduce vocational education for small sized firms within the existing educational infrastructures These are still focused on specific industrial and administrative profiles that are far too narrow for the entrepreneurial activities in SMEs. But the revival of classical apprenticeship may well be of a temporary nature and confined to the specific needs of this sector.

Finally, with growing overall unemployment an increasing number of school leavers entering the labour market without any appropriate qualification are facing serious problems. Special programmes for these groups, introducing a variety of IWL forms, are already being developed in some countries.

4. Conclusions for a project on integration of work and learning

Based on the foregoing analysis, it can be stated that integration of work and learning, though not yet a priority on the agenda, will be of increasing importance to the countries of Central Europe. Reforms of the VET systems in most countries have principally been driven by attempts to solve major deficiencies of vocational education and training inherited from post-war policies.

However, the systemic changes that have resulted from these initial policies are bringing the VET systems increasingly in line with recent developments in EU member states. A number of transition countries are now under great pressure to intensify their efforts to complete initial reforms and to continue to develop their VET systems in view of their forthcoming accession to the EU. A key issue in this respect will be the improvement of relations between training institutions and enterprises as a precondition for establishing lifelong learning for all.

Policy makers in most countries have recognised this challenge. They are increasingly faced, however, by training institutions and enterprises that either do not yet fully share the commitment to integration of work and learning, or - even if they do so - lack the operational tools and instruments for practically achieving this.

The contribution of a project on Integration of Work and Learning, therefore, could serve two clear purposes.

- The first is to increase awareness on the increasing importance of improving the integration of work and learning.

- Secondly, its contribution would consist in assisting the countries in developing practical tools and guidelines for supporting existing initiatives and potentials for a further integration of work and learning.

It is also possible to define some particular areas where integration of work and learning will have immediate policy relevance:

- the first is in initial vocational education for youth, where as a result of the economic restructuring firms (especially the large ones) have given up their traditional role in the former "quasi-apprenticeship" system. The loss of practical training possibilities inside enterprises has led to a larger role for schools and for small firms. Will they be able to develop a true alternative for the quasi-apprenticeship practices of the earlier times?
- the second can be found in firms that belong to the modern and/or post-industrial sector and that are increasingly competing with other firms on a global market, even within their own country. These firms are faced with similar challenges of firms elsewhere and for them life-long learning and continuous innovation indeed pose the question as to how to improve the further integration of work and learning.
- the third area concerns the older generation of unemployed who have low formal qualifications apart from their work experience and are difficult to retrain and re-employ. There will be an increasing need to retrain and re-qualify large numbers of them..
- the fourth area relates to the efforts of the chambers to assess and determine the quality of practical training places offered by enterprises in the framework of both the new apprenticeship system and the post-secondary professional courses.
- the fifth and final area concerns the initiatives of several governments to reorganise existing school workshops into Regional Practical Training Centres.

These areas deserve further investigation. They refer to the key issues of most vocational education systems in Transition Countries. However, a number of EU member states have been and some indeed still are, struggling to find appropriate measures and solutions to them as well.

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SUMMARY OF THE WORKSHOP

Part I: The Slovenia Day

1. *"Integration of Education and Work in Slovenia - from the viewpoint of theory and practice" by Zdenko Medves and Janko Mursak*

As a consequence of reforms in the early eighties, the new society of two million Slovenians, after independence in 1991, inherited a relatively well developed, but centralised and totally school-centred VET system. Therefore, the system did not respond to the requirements of the market economy and was almost exclusively geared towards "paper qualifications".

The process of rapid social and economic change presents a big challenge to all education but especially to VET. The present VET reform process is mainly characterised by :

- the introduction of a new social partnership
- the adjustment of the system to the needs of the economy

The main objective of this reform process in Slovenia is to extend learning and training processes to the working environment within companies. This is no easy task especially where VET for young people is concerned. The re-introduction of the classic dual system through experimental programs is one of the possibilities that responds primarily to the needs of small and medium seized enterprises. Also, with a dual system the chances for social partnership become greater. Additionally, new two-year post-secondary vocational colleges have been set up. They have a pronounced practical orientation, targeting the needs of companies employing more demanding technological processes. Emphasis here has been placed on practical in-company 'stages' for students. This paper will discuss present experiences in the light of these new structures. We are facing some conceptual problems which could be considered as the subject of our discussion. They can be summarised in three questions :

- How to regulate the status of students and apprentices inside the companies?
- How to motivate companies to develop training places for young people?
- What kind of training is needed for in-company trainers and how can it be provided?

Part II: How to Bring the Educational Institutions Nearer to Work?

1. *"The Learning Potential of Work: the Challenge for Education in Hungary" by Andras Benedek*

The social and economic transformation in the Republic of Hungary has led to new aims for vocational training, and the emerging market economy has defined different, higher requirements for the labour force. In vocational training, professional knowledge, the ability to adapt and entrepreneurial skills have become priorities.

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Formerly the important players in the economy had no real say in practical training. So they chose to be less and less involved in it.

Young people continuing their studies at vocational training schools had to choose their profession at the early age of fourteen which led to a significant increase in the drop-out rate.

Thus a significant transformation of the structure and the content of vocational training was required. The legal prerequisites for this have been created by the new Act on Vocational Training. This Act regulates all vocational training inside and outside the educational system which in future will start only after the age of sixteen. Thus, career choices have become better founded, and the ten years of general education allow vocational training to concentrate on its specific tasks and to define differentiated training for qualifications according to market needs. The professional qualifications are defined by a newly created central National Register of Training and are acquired through universal centrally defined examinations before independent committees.

Vocational training is shared between the state and other agencies. The scholastic part is provided by the state which is responsible for the schools, whereas the practical training is, to a large degree, the responsibility of the members of the currently emerging chambers of commerce. The Act ties enrolment in a vocational training programme to a training contract between the student and the training enterprise. This contract fundamentally redistributes the responsibilities between the schools and the social partners. According to the Act, the directive and control functions have now been taken over by the chambers of commerce. It must be remembered that due to the dismantling of the state conglomerates, practical training is increasingly provided by individual entrepreneurs. That makes supervision more difficult. For the sake of the trainees' safety, the chambers have to ensure that their members fulfil the legal requirements for practical training.

Some further conceptual elements worth mentioning here are :

a) The Act on Vocational Training is fully compatible with the Act on Education

b) Individual regulations are implemented bottom-up according to requirements.

c) The Act contains statutory provisions only where legal guarantees are required for the functioning of the vocational training system as a whole.

2. *"The Learning Organisations : How to Bring Educational Institutions Closer to the Workplaces?" by Bernard Raynaud*

Nowadays companies are looking for flexibility and want their employees to be able to react and therefore demand specific qualifications from their workforce.

These new qualifications could be tested and implemented if learning organisations were set up within the companies. These learning organisations would need to firstly promote trust among the employees and thus facilitate the development of skills specific to the attainment of the qualifications.

The role of the French Ministry of Education is to describe expected levels of skills for which it will grant qualifications. Given that it is also required to provide training and assessment in the companies, the French Ministry of Education should create a partnership with those companies participating in the programme.

Knowledge, know-how and skills can be improved and developed within such a system if the learning organisation is autonomous and it takes responsibility for the employees by appointing supervisory staff to oversee and give advice regarding training and assessment.

In order to illustrate the learning organisation approach in practice, the development in four large French companies is presented.

3. *"The Integration of Work and Learning within a Network of Different VET Locations (Schools, Training Centers and Companies)"* by Günter Kutscha

In all European countries, the integration of work and learning is a priority. In this context, the networking of work and learning at the in-company workplace as well as the co-operation in scholastic and trans-company learning places are of special importance. Taking the example of VET in Germany, it can be shown that this system has already been moving from a dual to a plural system of places of learning for a long time. In large companies one can observe a trend towards the decentralisation of training, and at the same time, the development of a combination of learning places e.g. the combination of in-company training workshops, places of work and teaching islands. Also the vocational schools are making efforts to replace the traditional frontal teaching of theory with new forms of action- oriented learning and to test new places of learning for integration of theory and praxis. For example, there are teaching offices for the training of commercial staff. The presentation deals with these topics in some detail and proposes the main thesis, that the transition from a dual to a plural system is unstoppable and, indeed, necessary for the modernisation of vocational education. At the same time it has been pointed out that the inherent problems of co-operation and co-ordination within such a differentiated system of learning locations have not yet been solved. These are among the most important challenges of the VET reform not only in Germany but also in other European and non-European countries at present.

Part III: How to Bring Learning into the Daily Work Procedures of Companies ?

1. *"An Organisation of Work to Promote Experience-based Learning"* by *Johannes Steinringer*

In essence, IWL is not a question of the modification of work organisation but much more about planning training around work.

It is a special kind of human resources-development.

It is not primarily a curriculum which influences and proposes the learning objective by means of schedules but a business case or production order. When specific skills and knowledge have been mastered, they can be ticked off in a checklist specific to the respective profession ("down-under curriculum").

The places of training have to be selected wisely. Some skills and abilities cannot be taught but only developed in practice through one's own actions and performance. Also with regard to assigning the training, people with special skills have to be selected with care; ideally every employee should be eligible for assigning a training task ("the teaching and learning enterprise").

IWL is ideal if a task has to be finished with the aid of a computer and the help program is effective. In future, when there is a vast field of opportunities for computer-based learning and training, IWL will promote the idea that the trainer should continually alternate between the roles of consultant, presenter or coach. Ability is more important than knowledge for successfully transferring information. IWL can improve this considerably. This effort will require a combination of qualification-management and knowledge-management skills.

2. *"The Co-operation of Companies in the Framework of Training and Learning Partnerships" by Janja Meglic*

The Slovenia Chamber of Crafts has an important role in the process of making systematic changes in vocational training. The creation and implementation of vocational training is characterised more and more by partnerships instead of restricting it to schools. The Slovenia Chamber of Crafts is an organisation which represents the interests of small and medium-sized enterprises.

The tasks of a social partner (The Chamber of Economy participates on behalf of the employers) are: sharing of responsibilities, creation of a vocational training strategy, definition of occupational demands which quickly adapt to the needs of the labour market, implementation of on-the-job training and supervision of the implementation of the training and the results of training (assistant examinations).

The Slovenia Chamber of Crafts and its members are gradually improving their competencies and taking up their responsibilities. But they still need additional training and stimulation in order to be able to carry out a wide range of tasks. Both Chambers supply their members with written materials and organise pedagogic seminars so as to prepare their members for a new role. The Chambers have begun taking the necessary steps in organising masters exams (The Chamber of Crafts) and foreman exams (The Chamber of Economy). There have already been some positive results: the number of training places is growing and the number of contracts for training is expected to rise.

Apart from vocational training in schools, on-the-job training is also needed. The shortcomings identified in this area will gradually disappear through co-operation among employers and by introducing inter-business training centers. Training is becoming top priority for The Chamber of Crafts, which performs this task very successfully, thanks to its good organisation and compulsory membership.

Stimulating measures in this area are necessary. Employers will need some stimulation at least at the beginning, because of the expense involved in dual training and the role of social partners. This also means that the social partners (state and trade unions) will have to "speak the language" of small and medium-sized enterprises.

3. *"What to Learn in Companies: How to Produce Goods or How to Satisfy Clients?" by Edwin G. Nelson*

There is already a great deal of awareness of the question that I have been asked to discuss and this is clearly evident in the White Paper in Education produced by the government of our host country, Slovenia.

Policies and legislation are 'enabling' devices which allow VET practitioners to respond to the changing needs of their clients. It is, therefore, appropriate to begin discussions of this question of a client orientated VET curriculum from the perspectives of clients, that is to say employers and their employees. This leaves us in no doubt that a client orientation is important in enterprises in both Western and Eastern European countries. The enterprises creating new jobs now and for the future are SMEs. Large firms, on the other hand, are downsizing and reducing the numbers they employ. In a market economy, however, the survival of enterprises of all sizes rests on satisfying clients. In responding to the needs of the market economy VET institutions must recognise these 2 groups of clients - employees and employers. They have interests in common, but also separate concerns. Both groups may need to be helped to understand the changing environment and the increasing importance of satisfying clients' needs and preferences.

One way in which VET institutions can assist the adaptation to the new environment is to use traditional educational techniques to stimulate the curiosity of learners about the changing world of work and provide opportunities to satisfy their curiosity. The paper concludes with suggestions and further questions regarding a VET orientated curriculum.

Part IV: Didactic and Methodical Implications of the Integration of Work and Learning

1. *"Learning Skills or Problem-solving : New Approaches in Curriculum Development" by Oriol Homs*

The changes taking place in production and organisation call for an in-depth review of the qualifications of a large part of the company work force. It is not just a matter of updating skills and knowledge but also of professional behaviour. In this situation the call for competencies seems to be a call to arms.

Innovation and quality strategies require the individual to mobilise not only tried and tested professional skills, but also some human abilities such as intelligence, creativity, involvement, a sense of responsibility, communication and above all intervention and problem-solving abilities. These changes are as evident in the service as in the manufacturing sector.

The social construction of qualifications has ended up in a system which brings together education/diploma/post-classification/salary, and the rigidity of this system is no longer suited to the flexibility and competitiveness required by business. The introduction of the competence concept allows us to view qualifications in a new light.

The new core competencies, cross competencies or social competencies (the terms used by the various authors) highlight the changes occurring in professional profiles as a new kind of professionalism emerges which is based more on behavioural and organisational features than on technical procedures. This change has been brought about by the effects of technology development which has increased the degree of self-regulation in technical systems and by the increase of cognitive and learning capabilities in individuals due to a generally much higher level of education.

In short the concept of competencies is a mobilising concept which by improving the qualification model makes it easier to adapt the socio-technical systems to the requirements of the economy in the 21st century.

2. *"The Change from Instruction-led to Experience-led VET in Educational Institutions" by Gerhard Herz*

It can be stated or at least assumed that there has been a change from instruction-led to experience-led VET in educational institutions. According to my observations, this process is going on in educational institutions as well as in companies and although it happens in different ways the two approaches seem to be interrelated.

Looking at this process, we have to discuss the role of experience in learning, its visible and invisible indicators, the reasons why it comes about, the form in which it appears and the didactic and organisational consequences for companies and educational institutions, confronted with this phenomenon.

Indicators are, for example, the efforts of schools to link their curriculum to real life and to improve their flexibility by strengthening their autonomy and their forms of co-operation with companies. Indicators on the company side are those activities intended to improve their processes by making use of the staff's experiences, beginning with those of their apprentices. Both efforts will be illustrated by an example. Apart from the economic reason i.e. winning on the market, there is a new kind of thinking that seems to rate human ability higher than technical experience or sophisticated curricula. While companies try to integrate specific forms of learning into their working-processes, educational institutions will have to open themselves up to real life and the immediate and individual needs of their students. In response to the resulting didactic challenge, educational institutions will have to change from fixed, plan- and content-oriented instruction units to a more open client-oriented and situation-related form of teaching. The great variety of experiments and many of the solutions found during these developments in numerous companies can be helpful, sometimes even exemplary for educational institutions in finding their own set-up. Companies may find some tips to improve their systematic approach to learning and evaluation by looking at the practice and the experience of other educational institutions. Both of them can tap into their dormant resources to promote the process of change from abstract knowledge to active abilities.

Pertinent questions:

- How to get companies to increase their didactic awareness?
- How to get educational institutions to upgrade their flexibility and (educational) processes?

- What is the right ratio between the required amount of instruction units and the education process as a whole?
- How can educational institutions as well as companies ensure that this change will be useful, above all for the learners involved, so that the process and its content become a medium for their individual development?

3. *"Development of Teachers and Trainers for Integration of Work and Learning" by David Oldroyd*

The preparation of VET teachers and trainers in Partner Countries is a specific innovation set within a complex of other innovations comprising VET Reform as a whole. Integrated workplace learning (IWL) for VET students is an innovation, as yet only partially implemented. Teachers in VET schools and trainers or mentors in the workplace will be the main actors in implementing IWL for students once the legislators and curriculum developers have initiated it. Just like their students, the pre-service and in-service VET teachers and trainers can themselves benefit from IWL in their own professional learning. In planning development programmes for teachers and mentors to prepare them for implementing IWL for their students, an integration of several variables is required:

- teacher trainer - work-based mentor or peer coach - trainee teacher *(the key actors)*
- education - training - self-development - support in the form of coaching for reflective practice *(the mode of professional learning)*
- off-the job - close-to-the-job - on-the-job *(locations for learning)*
- instruction - investigation - combinations of the two *(teaching/learning strategies)*
- top-down - bottom-up - lateral diffusion of good practice *(innovation strategies for programme development and implementation)*

The variables involved in designing development programmes for those who teach VET students are essentially the same as those for designing IWL for VET students. In both cases, a balanced, holistic approach is desirable which takes into account what is feasible in the national educational setting. A holistic approach also attends to: *organisational development* (making the schools and workplaces receptive) and *personal development* (self-efficacy of the key actors) in addition to *professional development.*

Part V: How to Implement the Concept of the Integration of Work and Learning?

WGI: How to Bring the Educational Institutions Nearer to Work?

The working group identified

- factors hindering the development of co-operation between educational institutions and economy

- major barriers to the development of an effective communication process
- possible changes in the future

WGII: How to Bring Learning into the Daily Work Procedures of Companies?

This discussion highlighted the following:

- practical training is a very complicated and sensitive process, it cannot be planned at the "green table", there is always a need for experimentation and real experience.
- learning is one of the ways to overcome the barrier between the theory and the practice
- when carrying out practical training, it has to be assessed which consequences the concrete steps have for the individual and for the institution (organisation) and how these consequences complement each other or are in conflict.

WGIII: Didactic and Methodical Implications of the Integration of Work and Learning

The participants collected a small number of different national examples dealing with the aim of IWL. It seems to be characteristic, that the approaches are very different from each other. The didactic structures are not comparable either because they have their origins in rather different educational and cultural backgrounds and financial conditions.

THE WORKSHOP

Editor's Note

The authors of the various papers were invited to present an outline of their paper during the workshop sessions in Bled and then submit the full text sometime later.

Hence the discussions reported in these proceedings relate to a preliminary 15 minute overview. Some authors have taken the cue from these discussions to re-work their original text and therefore the reported discussions may contain references to ideas or statements the author then decided not to include in her/his final paper.

We have decided not to eliminate these references from the discussions: firstly it could look like a type of censorship, but more importantly, we think it provides a good insight into the development process during the workshop.

PART I

THE SLOVENIA DAY

Integration of Education and Work in Slovenia - from the viewpoint of theory and practice
Zdenko Medves and Janko Mursak

PROGRAMME

As this European Training Foundation Workshop was held in a partner country it seemed appropriate to give the host country the opportunity to present its achievements and challenges in Vocational and Educational Training to the workshop participants from other countries and international organisations. It also made it possible to meet a large number of Slovenian VET experts from the Ministry of Education and the Ministry of Labour, the Chambers and academic and educational institutions.

The morning of the first day of the workshop the delegates visited a modern Secondary School VET centre in Ljubljana. The afternoon was dedicated to the presentation of the current VET situation in Slovenia and a general discussion in the presence of the Minister of Education, the Vice Minister of Labour and a group of special guests from Slovenian institutions.

INTEGRATION OF EDUCATION AND WORK IN SLOVENIA - FROM THE VIEWPOINT OF THEORY AND PRACTICE

Zdenko Medves and Janko Mursak

A brief reminder of recent history

Until the end of the Second World War, Slovenian education was strongly rooted in the tradition of the Middle European school concepts. The post Second World War period was characterised by the predominant influence of state administration and politics on education which had considerable repercussions on the development of the VET system. Thus the apprenticeship system was declared as a special way of izkoriscanje (exploitation) and abolished by the implementation of socialist school politics in 1945/47. Nevertheless up until 1967 public enterprises retained the leading role in carrying out VET and the name of apprentice was replaced by students-in-enterprises. In 1967 all forms of VET were included into the national education system, widening the gap between in-school and on-the-job education and training and creating a number of conceptual dilemmas due to the status of the pupils which was regulated by school and not work legislation. Here one can find the root of the radical ideological criticism of the existing system from the positions of social justice, developed by socialist pedagogics and school politics.

This criticism led to further integration of VET into the national education system and consequently to its scholarisation. All VET was practically carried out in schools, which were responsible for its practice-oriented part. The parallelism between the in-school education and on-the-job training was replaced by the concept of successive steps: the practical part of VET was carried out after having finished schooling and during first employment. It took the form of a half-year probation period ending with a professional exam for a concrete vocation or job.

Problems of VET scholarisation

In the recent developments of VET in Slovenia, the most discussed and problematic tenet has been that VET should exclusively be under the responsibility and in the sphere of the education system. The historical dimension of this thesis has resulted in the present gap between the education system and the business world. The first decade after independence has seen great efforts to close this gap.

Integration of work and education as the demand of the macro-economics system

It is evident that market-oriented economy demands a different staff development to state planned economy. This becomes even clearer if we remember that the state presumed it could guarantee full employment for the population. Bringing the idea to its logical conclusion that VET belongs to the world of "education" and not of "business" and is an integral part of the school system means that VET can even function as a limiting factor on the labour market and become the strongest channel of state intervention. Especially it could suppress free competition. The demands for integration of work and education should be based on macro-economic arguments if it is supposed to become the element of economic growth.

Integration of education and work as a prerequisite (source) for achieving higher quality of modern VET qualifications

First experiences in the implementation of market economy in Slovenia confirm that it is impossible to achieve the complexity, multi-functionality and applicability of VET without direct involvement from enterprises into VET implementation. Only this approach will enable policy makers to provide each individual with a comprehensive VET qualification. It will make the process of vocational socialisation and the formation of a vocational identity the core of developing a modern VET concept.

Integration of education and work - past, present and future

In Slovenia, integration of education and work has been, at least in theory, understood as responding to the general request for closing the gap between education and real life. To a large degree this demand has been burdened by socialist pedagogy and its slogans. It offered schools legally prescribed contents usually called "bases for technologies and production" whose formative values were highlighted. Work was thus assessed by its formative and not educational (instructional) value. Also at present, this historical impact causes a number of disagreements which could be stimulating in developing and promoting a critical attitude towards work.

A basic shift in thinking that should be achieved is a more differentiated understanding of the relation between work and education. Above all, the educational dimension of work should be stressed. The role of work in the development of practical value of knowledge, professional competencies and problem-solving orientation has to be appreciated. In future, integration of education and work could be understood as the process of intellectualisation of work process and as a method to apply theoretical knowledge in practical problem-solving.

Integration of education and work on all levels of education

It must not be thought that integration of education and work is only a feature of lower level vocations which are equal to physical work. The demands for intellectualising the working process and for applying theory in concrete work situations is one of the new approaches for integrating education and work on all levels of the school system. Of course it is of special importance on all levels of VET systems from legal regulations to academic research.

This approach has been taken into account in the new VET legislation which puts into practice the integration of two secondary levels: colleges and higher VET. The conditions for the implementation of the strategy differ from level to level: from the conceptual point of view we can distinguish two approaches:

In secondary VET, corresponding to 3 and 4 year post-compulsory education in other European countries, we have planned for a gradual transition to the "dual" VET system, based on the principles of some other European countries but adapted to the Slovenian social, economic background, tradition and values. We will discuss this later in detail.

In post secondary vocational colleges and higher VET education a part of the curriculum is carried out in enterprises: the concrete activities contents are planned by mentors, taking into account the general goals of the curriculum.

The Slovenian version of the dual VET system

a) *September 1997 - experimental introduction of dual VET system parallel to the school organisation*

The dual system has been experimentally introduced with 8 vocations: car mechanic, car body repair, wood-processing, masonry, carpentry, butchery, furrier, leather and fur fashion industry. 700 apprentices enrolled in this system and have been offered training places by craftsmen and enterprises. Parallel to the dual system, about 900 young people have enrolled in school-organised training for the same vocations. These programmes have a more theoretical orientation.

The advantages of the experimental introduction are that it diminishes the risk of lack of training places for apprentices with employers. It is expected that the employers and their associations will gradually take over full responsibility.

The weakness is that as there are both alternatives running in parallel - dual (the social partners) and school-organised training (the state) - the latter is supplanting the former which diminishes the motivation and the responsibility of individual social partners especially of employers and their associations.

b) Curricula solutions are based on the complementarity of school-organised and employer-provided education

The dual system is based on the Slovenian tradition of co-operation between school and employer. The crucial difference is that the school contents were not added to an existing apprentices education, as is the case in the majority of European countries. As compulsory schooling was introduced a posteriori there the employer has retained the leading role and the main responsibility for apprentice education. In Slovenia the dual system has been introduced in conditions where schools are appropriately equipped for implementing the whole range of activities, including practical instruction, which is very different to the situation in Europe.

c) Schools and employers each take their part of the responsibility

Even in a dual system, the school retains a strong position. Formally pupils enrolled in vocational schools following the regulations valid for general school population, including the progression from one grade to the next. In reality, success in the schooling part has a strong impact as for the practice part there are only two tests: the intermediate and the assistant's exam. Besides theoretical knowledge the school also provides basic practical knowledge (basic skills of vocational practice).

Expected advantages: broader general knowledge, higher level of theoretical professional knowledge, possibilities of gaining additional knowledge necessary for enrolling into higher and university education, solid basic practical knowledge, easier and more efficient introduction into education by the employer, focus on the correlation between theory and practice.

Expected Problems and follow up strategies: the conditions, stimulation and motivation for high quality education by employers, regulation of status problems of apprentices, problems of extension of apprenticeship, development of the assessment instruments to follow up the employers part of education.

d) Characteristics of school-organised and company-practice curricula

Different approaches have been developed while preparing the curriculum for the school and for the employers part of education. The school part of the curriculum has been planned by the combination of the contents-based and goal-based approach. Besides the general goals the definite contents requirements are prescribed in the catalogues of knowledge. The basic time framework to achieve the goals foreseen is attached.

The education by the employer is planned with the so-called exam catalogue, including only the goals of practical education and assessed at the intermediate or final exam (assistant's exam). This planning of contents is far more flexible and enables the efficiency of direct working processes: however the goals are fairly detailed (advantage) which diminishes the personal interest of the individual employer and thus diminishes his influence (the possibility of conflicts).

e) *Preparation of programmes based on social partnership*

The system of social partnership is a tripartite one: employers, employees, state. The system has not yet reached the level of social partnership as known in the developed European countries. At the moment the principle of social partnership is most efficient within different expert bodies (Professional Councils, Curricula Commissions, etc.) and less on the level of direct negotiations between individual social partners.

The present development of social partnership favours central organisations and partner bodies (associations of employers, their branch associations or sections) and restricts the influence of individual employers and enterprises. Because of the expressed process of transition (privatisation, denationalisation, struggle for existence on the labour market, unemployment, surplus of labour power) they have not developed their interest in education.

Similarly, trade unions have not been organised in such way as to develop the cultural and educational dimension of their activity and remain on the level of social problem-solving.

f) *Relation between school-organised and employer-provided education*

- These relations have been the topic of a number of discussions during the past development of the dual VET system. We would like to present the core of the polemics by illustrating three of the proposals:
- Vocational schools proposed that 66% of contents should be carried out in schools and 34% by the employers.
- The Governing Board of the Chamber of Crafts proposed 30% of the contents be carried out in schools and 30% by employers.
- Professional council for VET proposed 40% of the contents be carried out in schools (the minimum standard for all vocations) while in the process of developing concrete programmes it proposed a 50-50 ratio.

The actual relation in the 8 experimental dual programmes practised this year differs from branch to branch, but is near to 1:1, although the number of hours of instruction in schools exceeded the hours provided by the employers:

a) in the first grade 32 weeks in school, 10 weeks with the employer

b) in the second grade 18 weeks in school and 24 weeks with the employer

c) in the third grade 16 weeks in school and 26 weeks with the employer

Altogether it means 66 weeks in school and 60 weeks with the employer. Compared to the VET systems abroad, the school organised instruction includes practical instructions in workshops. In the future this part of the instruction would be carried out by the so-called medpodjetniski centri (inter-company training centers) developed out of the present school workshops. They will be the responsibility of the employers.

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Integration of education and work in vocational colleges

On the high levels of VET, completely new didactic forms for integrating education and work have been developed: the vocational colleges. The courses last two years. Enrolment requires the completion of a secondary school (matura or final exam). It is a form of non-university VET education. In the 1996-97 academic year, four branches of vocational colleges were introduced as an experiment: tourism, catering, mechanical engineering, electrotechnics and power electrics.

The vocational colleges' curricula comprise practical in-company training, which is always linked to a concrete project or complex service. The curriculum is based on a number of interlaced tasks or subjects. Besides traditional assessment techniques (exams, interviews, etc.) new forms of evaluating a student's efficiency are tested by directly involving them in real work. These projects are based on concrete problem-solving management in enterprises and have a high application value.

Already in the experimental year students and enterprises have shown great interest in such programmes which have received considerable financial and other support for their introduction.

First follow up results confirm the expectations that the new VET programme has let a lot of fresh air into the sphere of didactic forms enriching the traditional ones typical to the post-secondary education level. The interdisciplinary approaches have been underlined by the practical part of the studies carried out in enterprises. As a result of the development of VET colleges we have to face the following new strategic tasks:

- further development of didactic forms of studies on the cognitive examples based on the more efficient connection of the theoretical and practical knowledge and problem-solving approach;
- development of a systematic co-operation of enterprises and individual mentors in the process of studies

Perspectives and problems in the process of achieving higher quality and a more systematic integration of education and work

1. *The raison d'être of VET is building the bridge between education and work*

Recent discussions in the field of VET development in Slovenia have proven that the perspective of VET is in the integration of education and work on all levels of education. This goal cannot be reached overnight if we want to retain the quality and relatively high standards of general and professional knowledge achieved in the present vocational schools. Economic and marked-based circumstances are not optimal. Therefore the solution to keep the balance between the two parallel systems seems to be the best for the moment. It is hard to say for how long this solution will prevail, but nevertheless we are going to retain the predominant function of the school in the dual system (compared to other European countries) and thus reject the pure apprenticeship system without school-organised instruction as an integral part.

2. *VET is still the interest of the educational sphere*

By far the greatest obstacles for the fast implementation of the idea of integration of education and work are in the mind of institutions, bodies and organisations as their roots go back fifty years when the first steps towards the scholarisation of VET took place. In this half century the leading Slovenian economists, ministries in the field of economy, ministry of labour, family and social affairs, enterprises and businessmen have become accustomed to the idea that staff development is the responsibility of the ministry of education. This idea is adhered to by the whole of national economic politics linking the economic development problems only to monetary and market structuring problems. In spite of the views of the experts and employers, staff development and employment policies have not yet become an integral element of economic development policies and remain in the domain of education.

3. *Employers' Associations are not yet adequately organised to take over the initiative*

The reaction of employers and their associations is to be expected. As long as the national budget for education is covering the staff development of individual branches and services it is evident that employers will not show any interest in taking over the responsibility for their own staff development. It is not surprising that some branch associations deny any obligation and co-operation in the implementation of the dual system. They are also leaving the task to the schools. Some associations are interested but not to the extent of getting involved in the development of the corresponding mechanisms of the greater control of the efficiency of on-the-job-training.

4. *Enterprises are willing to take on students but problems begin when their obligations connected to education have to be defined.*

This phenomenon, which is characteristic for all European countries, is also present in Slovenia: the educational interests of enterprises do not tally with the global VET goals. There is an additional difficulty in Slovenia: small enterprises (with less than 10 employees) prevail. As the experiences from European countries show, these companies cannot guarantee high quality in VET as they do not have the appropriate staff, financial means and work facilities.

In the transition period medium-sized enterprises (20-100 employees) as well as big enterprises are not primarily oriented to staff (human resources) training. Some labour market analyses show that the greatest problem in Slovenia is not an inadequate qualification structure of the staff employed but overemployment and a substantial staff surplus.

5. *The process of intensive scholarisation of VET has worsened the conditions of the integration of education and work*

In the last twenty years the process of scholarisation of VET has decisively influenced the decreasing interest of small and medium enterprises in education. In the '70's education and training centres and service in enterprises was given great importance. With the school reform at the beginning of the '80's these activities were transferred to public school institutions and enterprises began to neglect them. Frankly we can say that Slovenian large enterprises - with some exceptions - have neither the space nor the staff to organise or carry out educational activities at the moment. The reason is that, similar to the national level, staff and human resources development has not yet become an integral part of individual enterprise planning. Planning remains financial, investment and capital oriented.

6. *The lack of interest of the young in VET has been influenced by the uncertain employment prospects*

First of all we should underline that the educational aspirations of the present generation are more articulated than they were some ten years ago. The majority choose to continue studies (at university level or in higher schools) after completing secondary school. As a consequence, most secondary VET schools lack students: also the choices polled for the 1997-98 school year have show that there is not enough interest in even seemingly attractive vocations (car mechanic, car body repair, wood-processing, butchery). More than half of the available places remain empty.

The lack of interest in technical education on all levels of education is a general trend - from secondary school to polytech.

A special problem is the poor regard parents and young people hold for on-the-job training and education within enterprises. This situation has resulted in the fact that young people prefer to be trained for a vocation in schools rather than in companies or by entrepreneurs.

7. *VET schools have expressed their reservations about the dual system*

The introduction of the dual system of education diminished the amount of work in the schools especially as far as practical training is concerned. This transfer could result in a surplus of teachers in practical institutions which is the main reason for the schools' reservations about the dual system.

Some open questions for discussion

1. The status of students/apprentices signifies a new solution also in the regulation of their legal and formal status. We speak of a special form of labour relations which should be reflected in the appropriate legislation. The same question is relevant to students who perform their practice in enterprises where they are neither full-time nor part-time employees.

2. We have already mentioned that - to a considerable degree - enterprises are interested in taking on the responsibility for the practical part of education. It is necessary to develop mechanisms for motivating enterprises to offer training places to young people and invest human and financial resources in education. What sort of mechanisms do we need and who should take the initiative?
3. The transfer of practical education into direct work environments demands an additional involvement by the employees especially those in charge of apprentices. Special training courses should be developed for trainers in enterprises. Who should develop these courses and what should their core contents be?

In Slovenia, we have already tackled these problems - alas without finding final optimal answers. We are not even sure that there are best answers. That is why we propose that the discussion during the workshop also deal with the problems listed in my paper.

Discussion

CHAIRMAN : Mr. Mursak has presented three key questions and I think one of the biggest problems here in Slovenia regards the second question: How to motivate enterprises to develop training places for young people? Mrs. Meglic from the Slovenian Chamber of Commerce told me that there are many small and medium sized enterprises which have already contracted students and apprentices. So what is the situation so far ?

MEGLIC : How to motivate enterprises? At the moment we are satisfied with the number of contracts, with the number of apprentices in this first year of the dual system. The big problem for the companies is how to manage the costs and how to register the apprentices when the legal status of apprentices is still not clear. Also with regard to costs, and on behalf of our members of the Chamber of Commerce, I would like to say that there should be some financial incentive for their role in in-company training. We are now attempting to solve this problem with the Ministries. It will take some effort but we are optimistic. Companies will be motivated if we can make them understand their role in creating skilled personnel and the subsequent advantage of having people in the workplace in years to come whom they can then employ and who already have the necessary skills. The advantage of learning in the work place is that young people obtain better skills than in schools, gain valuable experience in a real work situation and thus, are more prepared for their work in the future. But without the help of the State, I think we should not expect immediate results, maybe later. During these first years while developing the dual system, I think the State should help and offer support to the members who offer training contracts to these youngsters. We are already holding seminars for our members, but I think we should do more for them.

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MATONFI : I carried out a survey last year among employers who said that if the cost/benefit balance is negative, they won't train more people than they need to in the future. They made this very clear so it's a crucial factor to take into consideration. I think that rather than considering direct intervention from the State, a series of tax benefits would alleviate this problem. If an enterprise trains students, it should get a tax rebate.

BARTAK : We here are mostly educationalists and it's a pity that there aren't more representatives from enterprises. We tend to look at this problem from an educationalist point of view . We know what education is and that education cultivates the individual, cultivates the nation and so on , and we know about the different functions of education. In order to solve the problem of how to motivate enterprises, it is crucial to present education as having economic value, because this is not only a problem for educationalists and enterprises, but also for society as a whole and for the economy. If you achieve that, you will also find measures which are not solely pedagogic, but have an economic base, for instance through the tax system. Companies should thus be forced to develop training places and hence become more assertive, more aggressive. It is a question that must be solved with all social partners together.

CHAIRMAN : I'm not sure about forcing but I think it's important to state that education and training should have some economic value.

MURSAK : I completely disagree with this idea of forcing enterprises because it's not good pedagogic practice. I think the initiative in our countries should come from the Ministry of Education. Here in Slovenia the Ministry of Education supports enterprises by paying the pension contributions for apprentices. But it is true - and apologies to the Minister of Labour sitting next to me - that this 'sensitization' of the Ministry of Labour, is crucial.

CHAIRMAN : So, Minister, what would you like to say at this point?

KOVAC : Thank you for giving me such a "hot" welcome! Actually the Ministry of Labour has been challenged so many times, I have to make some comments. Really, awareness of how important training is, not only with a view to having trained people in the workforce, but also to reducing unemployment and making employment more productive, is increasing, albeit slowly, and it's increasing even within our Ministry. And were this not the time of transition with so many things to be changed. This is probably the main reason why awareness of the importance of training and also of how to co-operate more in this field has not yet been given the priority it deserves. But I have great hopes for the future and this year, I think, we have seen the first signs that co-operation will go ahead. I expect the instruments that we will develop within the next two years, of course along with our social partners and as part of the social contract between us, will provide the basis for really motivating and training employers, and indeed making them more aware of the importance of training in order to further develop their own productivity. Somebody here mentioned that training should not be classified as an expense. Indeed, for as long as training costs are not seen as an investment in future productivity, we will have problems on all sides, from employers, the government and especially third partners, this group of social partners and the trade unions. At the moment the unions are not fully aware of their real role in fighting unemployment problems. So we have a lot to do in this field but I'm sure that we will solve these problems over the next few years.

CHAIRMAN : Let me try to sum up what we have said so far. I think one really important point is that in school-based systems, the initiative for the integration of work and learning, has to come from the Ministry of Education. The second point seems to me that co-operation between the Ministry of Education and the Ministry of Labour is really essential for the greater integration of work and learning on the macro basis. The third point is maybe already implicit in the co-operation between the two ministries. The support of the Ministry of Labour in this whole integration of work and learning scheme applies especially to the social partner side. And the social partners themselves have to be aware of their role and responsibility in a modernised VET-system which will and has to integrate work and learning.

GROOTINGS : Yes, but your three points all address enterprises. One could perhaps add a fourth question; Is there anything that the schools could still do to improve the relationship between work and learning?

MURSAK : I think you've got a point there. Even I understand that sometimes schools have problems in training the trainers in some enterprises in Slovenia, because something which in German is called 'Berufliche Pädagogik' is not fully developed. These didactics of learning in the working environment are very important. But of course, our questions address the working environment because we feel the problem lies there and that schools are concentrating on what only schools can do, especially where this co-operation aspect has been implemented. For example, there are some schools in Maribor that are very well connected to or even set up by the enterprises. Co-operation there has been quite successful.

KALANDAROVA : I come from the Bulgarian Ministry of Education. I can tell you of our experiences because, yes, we do have problems and for the last few years the situation in Bulgaria has been politically and economically unstable. You know that. We have done our best. We have opened our vocational schools and their workshops to small enterprises, because most of our enterprises in the countryside don't have a base, they don't have equipment, buildings etc. Our vocational schools have good buildings and equipment even if the

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equipment is old. So a lot of start-up companies have begun in our workshops. In this way we co-ordinate our work. Most of our schools have contracts with small enterprises and in return they're now equipping our school workshops and helping our students. Jokingly we say that our vocational schools are helping to set up small and medium enterprises in Bulgaria.

CHAIRMAN : That is really an innovation in vocational education and training. I've never heard of it before but I think we should really consider it. In the United States I have seen the setting up of small and medium sized enterprises around schools, where people can work for a year to set up their businesses. But your solution is really born out of an emergency, where small enterprises don't have the space or the equipment to set up their businesses but probably have the know-how to pass on to and co-operate with the students. So this is maybe a beginning, a really good and practical beginning which integrates work and learning.

GABER : I would like to make two points. I think, Mr Grootings asked for improvement in the field of integration of work and training inside the 'schooling' part of vocational education. There, I see a lot of room for improvement; in particular because of what we are doing here in Slovenia. I don't believe that we are supposed to go from one kind of vocational education to its direct opposite. For the future, a mixed system is safer I dare say for students, for teachers, for enterprises and for society. That's why it is important to stress the role of this integration on both sides of the system. Also, I think that enterprises and schools should not only co-operate in the dual system but also in the system which now exists and which will be dominant in this country for the next few years. Why have we put a lot of money into vocational education during the last few years? The reason is quite simple. We were facing growing unemployment and the question for us and for the country was which choice to make. Whether to pay unemployment benefits or to invest in something else which would at least offer the possibility to come out of this unemployment state over the next few years. And if we created a greater number of better educated people at the same time, and we could kill two birds with one stone, then so much the better. That was the reason why we, the Ministry of Education, took this direction. We are also seeking to integrate activity by different actors, for example the Craft and Economy Chambers and ministries inside the Government. Step by step we're approaching this point and not only involving the Ministry of Labour but especially the Ministry of Finance. As you well know neither the Ministry of Education nor the Ministry of Labour can levy taxes. So here we are going slower than I would have liked. As the taxation system has a huge influence on any country I can see we are going to have problems in this area. Nevertheless, I see this shared responsibility for vocational education as an approach to be adopted in the future.

My second point is connected to the first one. As far as I can see we are facing a problem with the way in which education is valued. The role of education in our communities is a problem. There are lots of phrases about the importance of education and the common house of education and so on and so on, but as far as I can understand even inside the European Union we are only marginally speaking about common values. This common house of education! And how we are not able to survive solely as a group of associated countries! This trying to establish basic values as common values in Europe! But when we look at what is really on the table inside the European Union and also in the countries approaching the Union, we aren't seeing a lot with the exception of vocational education. At least I'm not. The discussion taking place is about the Monetary Union and mainly about the economy. That's a fact. Not only don't we have lobby in this Community or at least not a strong enough lobby even awareness of this fact is lacking. At least that's my perception. I will not deny that we have had the same problems here in Slovenia. How strong are you? That is the question. That is the question in politics. That's politics.

CHAIRMAN : I understand that you have now started a kind of Slovene dual system but running parallel you have your school systems with workshops. That brings us back to Peter Grootings' question: "What can the schools do in bringing the workplace nearer to learning?", but the other way round. So how can the workshops and the schools be opened up in a way that really matters to the people, so that the students can be attracted to the workshops, to the schools. The other thing is that it is possible to make a law regarding a Slovene dual system and then least on a legal level you will be bringing work and learning together. But you also say that this is not only a matter of law and institutions but also of interest, people, didactics and the efforts of the schools regarding training the trainers. So we have our full programme here in the speech of Minister Gaber.

JAGANJAC : I would like to tackle this question of investment in education. This is the most important thing, of course. Without investment and means education can't do much. We could imagine something but couldn't put it into practice. Most of us here come from countries in transition and we have to think about investment in education. We have to educate people for various vocational and professional fields, for agriculture, for medicine, health care, for industry and so on. Therefore, in my opinion each contract should pay 1/1,000,000 for investment in education.

CHAIRMAN : That's very practical advice. And with it we should close the first day's proceedings.

PART II

HOW TO BRING THE EDUCATIONAL INSTITUTIONS NEARER TO WORK?

The Learning Potential of Work: the Challenge for Education in Hungary
Andras Benedek

The Learning Organisations : How to Bring Educational Institutions Closer to the Workplaces?
Bernard Raynaud

The Integration of Work and Learning within a Network of Different VET Locations (Schools, Training Centers and Companies)
Günter Kutscha

THE LEARNING POTENTIAL OF WORK: THE CHALLENGE FOR EDUCATION IN HUNGARY

Andras Benedek

World-wide, vocational training programmes are undergoing significant changes. Although the traditional way of passing on unchanged professional knowledge from generation to generation, is still present today, it can no longer be regarded as the only VET approach. New types of vocational qualifications (e.g. in the field of information technology or banking and financial techniques) emerge and spread rather rapidly. In addition to the time-based educational programmes (curricula) as the general way in formal vocational education in our country we have to expect a significant spread of competence-based vocational training programmes, able to handle the individual needs of students/adult students of different ages and experience. It is a significant change, similar to progressive international trends, that we increasingly see modular specialisations of a process type in addition to the system of discrete qualifications traditionally concluding vocational training. This may lead to an essential change in the nature, structure and content of vocational training processes in the coming decade.

The central programmes cast into education documents developed on the basis of professional and examination requirements ensure that the training process can achieve its goals and enable local innovative workshop activities at school level to develop vocational programmes.

Using previous Hungarian and foreign vocational training material, experiences and innovations, the central programmes have been defined with the following main characteristics:

- They are time-based, which takes into consideration: the training period, the ratio of theory and practice, the length of the academic year in formal education.
- They follow the principle of competence, according to which the professional output requirements must be achieved regardless of the method of training.
- They have a modular structure which makes it possible to concentrate on the subjects and to build on previous knowledge. Subject modules have been developed besides core and supplementary materials.

In another approach, the two main characteristics of central programmes are:

- their structure (subject structure),
- their content (the material for the subjects).

The two characteristics are, of course, closely linked and vocational content is the decisive element. In the fields of general education and vocational training, these changes are characterised by the variety and contents differentiation of the training and education market and to a large-extent freedom for the institutions. Therefore they require flexible and harmonised curricula frameworks. This especially applies to the field of labour market driven courses where modularization is wide-spread. Here it is particularly important in order to facilitate horizontal and vertical transferability in the training system and to respond to the demand for uniform principles. By modularization the content and structure of the new type of training will provide 'credits' for those who successfully complete post-secondary training and then participate in initial training at college or university level.

This requirement is in line with social and international expectations:

- implementation of education as a system of elements which build upon each other,
- transferability of higher education,
- reducing the length of college or university education,
- more economical training.

At the same time students who have studied at a college for a few semesters without completing the entire course can transfer 'credits' in the other direction. So they will be able to finish their lower level studies in a shorter time. Thus, for society, the resources invested in their college training will not be lost.

Expectations towards competence-based training are as follows:

- the differences in competence of students having graduated from the three secondary level institutions (final examinations, final examinations plus vocational qualification, technician qualification) should provide different career prospects,
- the initial modules of training should be in line with similar modules of college and university education,
- young graduates from such training courses should not only know how to exercise a certain concrete profession as interpreted today, but also to have an understanding of related professions and hence be able to find their way in the labour market.

The aim of competence-based training is to impart certain competencies. This type of training obviously differs from traditional training.

In the course of development, competence can be defined as according to:

Competence:

- the summary of the theoretical and practical knowledge and its application as prescribed by the standards for practising a certain profession on a certain performance level.

Competence standard:

- the definition of theoretical and practical knowledge and their application in the expected practice of a profession. The standards are developed by the actors of economy as part of their work organisation and are regularly reviewed to ensure that the workplace requirements are continually met.

Core competencies:

- those competencies which are basic and general in numerous professions or within jobs and can be defined on a national (regional) basis. In training: the ones which are determined in the training programme.

Thus the aim of competence-based training is to impart knowledge in line with the standards as determined by the economy. (The demonstration of individual development in comparison to the performance of other members of the training group is not its objective.)

Graduates from formally accredited higher vocational training should have the following competence characteristics:

They have to be able to carry out their work according to general guidelines and to supervise and lead others in their work. Work planning for others and the responsible leadership may form part of the competence. On this level, competence involves autonomously controlled application of knowledge in tasks, jobs and functions which are not routine and highly specialised.

These competencies are applied in routine and non-routine processes. They are part of planning necessary decisions, selecting appropriate instruments, organising resources and techniques for one's own work and the work of others.

New challenges: globalisation, integration

Amongst the complex changes affecting European society, there are several major trends exercising decisive forces. We are talking about the birth of the information society and the acceleration of scientific-technological evolution:

- The development of the information society basically changes the nature of labour and the organisation of production. Routine-based and repetitive work, which has so far been the characteristic chore of the majority of employees, is replaced by more autonomous, more versatile activities. As a result, the importance of the human factor in companies increases, but, at the same time, employees are more sensitive to organisational changes, because, as mere individuals, they face a complex network.
- The scientific, technological and cultural development gives rise to a paradox situation as scientific knowledge is applied in production methods and supplies increasingly more complicated products: despite its many positive effects the advance of science and technology causes some irrational fears in society. Therefore each participant in this evolution not only has to learn to accept new technological equipment, but also the changing working conditions. In order to achieve this, competencies have to be developed which build on each other and include technological dexterity, the ability to filter information, to communicate and find one's bearings as an individual and as the citizen of a democratic state.
- So far the expansion of market exchange causes difficulties in job creation. As this exchange seems all-embracing and affects commercial, technological and financial transactions, globalisation removes the current borders of the labour market in such a way that today a global employment market is a much more realistic prospect than generally thought. In the White Paper on Growth, Competitiveness and

Employment, the EU Commission has obviously opted for openness towards the world market on the one hand. On the other it underlines that for maintaining the European social model, it is necessary to attain high qualification levels. However, this can only be achieved at the cost of allowing more differentiation in society which will raise the feeling of insecurity amongst citizens.

The necessity of quality development

Quality assurance of vocational training is basically regulated by three decrees related to the Vocational Training Act.

The previous four vocational training nomenclatures were revised at the beginning of the '90's and the list of state recognised vocational qualifications was created in 1993, this is the National Training List (7/1993). The revision also covered the content of qualifications. In order to stay up-to-date, the National Training List and certain vocational qualifications are constantly monitored and if necessary modified.

The revised National Training List allows to define the requirements and training duration of all vocational qualifications. Its important new element is that it classifies training levels according to ISCED. The more rapidly the new vocational model spreads, the more significant an achievement this is (instead of the original 61 schools there are 159 participating in the development today). As the model provides more output possibilities (at the ages of 16 and 18), and also traditional secondary vocational schools and apprenticeship schools use the model, the level definitions result in a clear output regulation: the target professions and requirements of secondary and higher vocational training can be clearly distinguished. Input regulations are equally important, i.e. the description of the entrance qualifications the pupil/student must possess in order to acquire the chosen profession as well as how to determine the length of training. This regulation is also applied to non-formal vocational training, i.e. for adult training and retraining, regardless of whether the training is carried out in one of the 8 retraining centres established by the World Bank programme or in the private sphere.

There is a legal regulation (8/1993) referring to the conditions of the organisation of formal vocational training and to the establishment of practical training sites.

Higher vocational training programmes and institutions offering such courses have to be accredited. This can be regarded as an element of quality assurance.

On the one hand, input is regulated. The National Training List currently in force regulates that a prerequisite for training courses leading to vocational qualifications should be either basic school qualifications or secondary qualifications or, in certain cases, existing vocational qualifications. Exceptions are 26 vocational qualifications which do not require the basic (elementary) school qualification. (Higher level vocational qualification requires final examinations.)

The output is regulated too. For each profession the ministries in charge are responsible for developing the vocational requirement system and the mandatory examination requirements. A separate decree (10/1993) regulates the order of examinations, the execution of examinations, the composition of the examination board, and under which conditions institutions are entitled to hold vocational examinations.

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The vocational training act defines the qualification and competence level required for VET teachers and the type of institutions where these qualifications can be acquired.

Currently, lack of capital and low added value characterise the Hungarian economy and will probably still do so by the end of the decade. If Hungarian competitiveness is to be systematically supported by upgrading qualified people, then a more selective modernisation of contents is needed than those presently underway. It should focus on increasing competitiveness in those industries and professions where Hungary has a realistic chance of significantly improving its international economic position.

An appropriately trained innovative labour force can produce good added value if they know and apply the quality assurance standards. Therefore the programmes of the formal vocational training system must feature the general elements for improving competitiveness and stress the need to constantly follow technological development . Already the introductory phase of vocational training should emphasise these general principles.

International comparisons and analyses show that there is a shift in labour demand towards the service sector. This trend is already palpable in the employment structure in Hungary. In parallel the number of employees decreases in manufacturing industries, especially heavy industry, and in agriculture. This is also a result of technological development. Therefore, Hungarian and international industrial policy analyses can identify some fields which should have priority development. These are, for example, information technology, telecommunications, environmental protection, production technology, microelectronics, quality control, social services, etc. It would be interesting to examine what impact the (industrial, commercial) services widely required by the population have on VET.

In order to improve the quality of vocational training, an appropriate career orientation, professional orientation system is needed. The quality of vocational training is, to a great extent, determined by the number, composition and motivation of students coming into the system. This is why vocational orientation is decisive. It reinforces the students' motivation and thus improves the quality of vocational training. In the current general education system an increasing proportion of graduates from the 8-grade elementary school is led into vocational training. The expansion of compulsory education until the age of 16 could be a significant and advantageous delay in this spontaneous orientation process. To implement efficient vocational orientation, teachers must be able to suggest various schooling choices and vocational alternatives. They also need to know theories and techniques for evaluating the motivations, interests and abilities of individuals and groups.

This requires new investments in human resources.

New legal bases

The Hungarian institutions directing and developing vocational training were fundamentally changed in 1990-91. It was probably the first country in Central Eastern Europe to introduce such radical changes. Vocational training management went out of the ministerial framework of central education management which was under pressure from the classic and, occasionally, pedagogic bureaucracy. A new ministry was established, the Ministry of Labour, whose main responsibility was to effect transition to market economy.

The concept was formulated in 1992 which, on the one hand, laid down the basis for a comprehensive legislative change in Hungarian vocational training and, on the other hand, aimed at developing an independent vocational training policy in Hungary in harmony with the Maastricht Treaty. It intended to harmonise the development of the competitiveness of the Hungarian labour force with the European system establishing the free movement of labour and the mutual recognition of vocational qualifications.

As a result of this concept, between 1993 and 1996 all the major acts on vocational training (Vocational Training Act, Vocational Training Contribution Act) and ministerial decrees were revised or re-issued. Now Hungary has a legal environment for vocational training which conforms to the EU standards.

Both formal and labour market driven vocational training are legally regulated. The 1993 Act on general education covers kindergarten education, school education, boarding school education and related service and administrative activities.

The following objectives are laid down in the preamble of 1993 Act on Vocational Training:

- In the Republic of Hungary a flexible and differentiated vocational training system in harmony with the social processes, the requirements of national economy and the demands of the labour market is to be established, and as such should contribute to economic development,
- the right to education is to be effected as laid down in the Constitution, and further, in the interest of participation in work the first vocational qualification should be provided, as well as the possibility of acquiring the vocational knowledge necessary for employment based on the equality of opportunities.

The third training act on employment from 1991 includes the regulation relating to training support of the unemployed.

In vocational training, the output, i.e. the set of state recognised vocational qualifications, the conditions for conducting examinations and the legal regulations do not differentiate between the fields of formal vocational training and adult training. However, there are fundamental differences in the training process and the financing of certain areas.

Formal vocational education

To the extent of basic tasks as detailed in the General Education Act, formal education and vocational training is provided free of charge to the students. The maintenance and operation of vocational training schools, similarly to other fields of general education, is the responsibility of the maintainers (more than 90% of the maintainers are local governments). With respect to vocational training, the sources of financing are as follows:

- state budgetary contribution for the maintainer (30-40%)
- maintainer's (local government) contribution(35-45%)

- compulsory vocational training contribution of economic organisations, within this the vocational training fund of the Labour Market Fund (15–20%)
- institutions' own income (4-10%)
- other sources (foundations etc.) (0-1%)

Labour market driven training

As long as non-formal training (adult, different courses) is not leading to a state recognised vocational qualification, there are no regulations which set limits. The training of the unemployed (labour market driven courses), however, is regulated by the already mentioned acts. In harmony with labour market demands, any type of training is permitted in this field too, however, state recognised training courses have priority.

The structure of labour market driven vocational training

a) The courses can basically be divided into two groups according to the nature and objectives of the training:
   - basic training , retraining and further training, which can lead to a vocational qualification, may be skill-based or a knowledge update;
   - supplementary training courses, which may be behaviour formation, ability development and job search courses.

b) Training can be organised by different vocational training schools, private companies, enterprises or the decisively state financed regional retraining centres.

c) Regarding documentation, courses ending with state recognised certificates must be differentiated from courses ending with non-state-recognised certificates, which may be the recognition by a certain company (job training) or may be simply a certificate of attendance(e.g. placement training).

d) With respect to access to training, the unemployed or those at risk of unemployment have an advantage, but individual support may also be granted for different courses if they are supported by the labour organisation on the basis of the labour market demands.

Before the change of regime the vocational training system put the main emphasis on satisfying the demands of industrial mass production. As a consequence of the transition to market economy the expectations towards vocational training have changed. Vocational training must take into consideration the local characteristics of a certain region or county, the opinion of the Chambers, the labour force demand of enterprises and entrepreneurs and must train for vocations which are needed. This fact necessitates decentralisation.

Formal vocational training management currently does not have county level operation. Local vocational training policy is drawn up by the school-maintaining local governments which are responsible for the operation and development of the institutions. According to the Employment Act, the county/municipal labour centres assist in this activity as they know the labour market situation and other relevant information. At present, county/municipal level decisions in the field of formal vocational training are made with reference to decentralised allocations out the vocational training fund of the Labour

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Market Fund. Labour councils consisting of representatives of local governments and social partners make decisions annually on the allocation of the decentralised funds.

The problem of the co-ordination of regional general education responsibilities is on the agenda. The amendment draft of the General Education Act includes the obligation to prepare county/municipal level development plans. At the same time the establishment of regional public foundations is also recommended.

According to plans, the third phase (vocational specialisation following secondary education) of the new vocational training model (the so-called World Bank model) would be implemented in the framework of consortia established on county level. A consortium would co-ordinate and concentrate the local vocational training institutions (secondary vocational schools, retraining centres, colleges or universities) in the interest of vocational training.

In the Youth Secondary Vocational School Component of the Human Resources Development Programme the classrooms and teaching equipment were designed by an expert team of teachers set up for this purpose (in job families), independently from any management body.

In non-formal as well as formal training systems for the unemployed, there are several regional-level institution systems in operation. One of them is the network of county/municipal labour centres and the system of related labour councils, as already mentioned.

The other system is the network of regional labour force development and training centres. There are 9 of them distributed over certain regions of the country. They also have a certain regional co-ordination role in the field of vocational training.

The social partners i.e. the representatives of the employees, the employers and the economic chambers take part in the formation of vocational training policy and in certain related decisions both on the national and decentralised levels.

As social partners, the representatives, the employers, the employees and the government take part in the Reconciliation Council and the National Labour Market Council. The National Vocational Training Council has two more actors, the representatives of the local governments and the chambers. In the County Labour Councils, the third party besides the employers and employees is the representative of the county self-government.

On a higher level, and concerning general questions, the reconciliation process is conducted within the framework of the Reconciliation Council. The reconciliation activities relating to crisis management take place in various bodies, amongst them is the National Labour Market Council. With its available funds, the council influences the solving of problems in the field of transition from school to work place. Young people dropping out of secondary educational institutions, entering the labour market without qualifications and thus finding no employment are supported, on the one hand, by specialised schooling instruments and by the active instruments of employment policy, on the other hand. The problem of youth unemployment is also tackled by a system supporting special placement, in addition to the systems of labour market driven training courses and retraining courses.

The medium level is supported by decentralised financing allocated on the basis of decisions made on the higher level. In this process the higher level attempts to solve problems due to the special situation of the given region.

On the lower level, the employees and the employers occasionally deal with this issue in their branch- or company-collective labour contracts. Lower level co-operation is supported by co-operation agreements between different organisations.

Discussion

CHAIRMAN : Mr Benedek, you said that you changed the Training Act. What was the reasoning behind this new legislation?

BENEDEK : There were two main reasons why we changed these things. First of all to establish an absolutely new, original relationship between the State and the economy. To summarise in a very simple but concrete way, it means that under this Act we divide the funding and the responsibility. We accepted a loan for the Economic Chambers and in the last year we have reallocated a huge sum so that the Chambers will totally control the economic side of practical training. Until now it has always been very unclear who should control practical training and who should be responsible for its quality. Another important issue is that we have divided the educational process and the vocational qualification process. Control has been completely removed from the educational system and this means that independent vocational training examination boards exist. On these boards, the representatives of the economy have an absolute majority and they decide whether to give qualifications or not.

HERZ : You spoke about the evaluation side of curriculum development. Do you see this as just a financial or organisational factor, or do you imagine that it could also be a content factor for curriculum development?

BENEDEK : Not just any two of them but all of them together. In the early decades the curriculum for general education and vocational training was only made up of pedagogical documentation. Centralised and in a central institute, the workers and researchers worked it out with some consultation but it was a process which was absolutely separated from the real training processes. Just in terms of its organisational role, this process was not at all unified by time, by content and so on and did not involve the social partners.

Secondly, every vocational programme has financial implications. When we decide about the standards for these qualifications e.g. youth training for two, three, four years, or regarding adult training and the number of hours, which modules and so on, we also have to plan how to finance these programmes.

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And lastly, we are well on the way towards liberalising programme innovation but at the control level the standards are mandatory for everybody. It means every one of the approx. 400 qualifications in the recent vocational training schemes is issued by a decree. But there can be very different programmes for achieving each qualification. The examination boards, however, have clear and standard rules for deciding whether a qualification can be awarded or not.

BARTAK : Thanks for the identification of recognitions which is very important. Do you have any idea, maybe recommendations as to how to implement these recognitions ? It's a very broad problem for the Ministries of the Interior.

BENEDEK : As I mentioned the new law is only a framework law. The main issue was to reach agreement on these matters between the economy, the State, local Government and school maintenance and so on. But at the second level, the vocational training list and all qualifications are regulated by the law of 1994. The responsibilities are with the branch ministries depending on the type of qualification. Now the law has opened a new way to transfer this responsibility to the Chambers. The social partners must be involved in defining the standards and even the programmes. They will have their say on the recognition of the standards and in the accreditation procedure. Therefore, we have no problem of domestic recognition. The other question is European-wide recognition. With Austria we have an agreement on the recognition of eight qualifications which are generally recognised in the European Union.

THE LEARNING ORGANISATIONS: HOW TO BRING EDUCATIONAL INSTITUTIONS CLOSER TO THE WORKPLACES?

Bernard Raynaud

Introduction

Nowadays companies are seeking to incorporate flexibility and ability to react into their working structures and therefore require specific qualifications from their workforce. At the heart of this "new qualification" lies the ability to solve new problems, thrown up by the complexity of production systems and new forms of work organisations into companies.

The French Ministry of Education has recognised this need of modern business and identified two opportunities to help companies in re-qualifying their employees. Firstly, these new qualifications should have a wider scope than just for the one company where this effort takes place and secondly the training should result in something with which the successful trainee can prove her/his new and normally advanced qualification. Therefore the Ministry established so-called job groups to help the interested company to define the desired qualifications and devise training methods and an environment for it. Moreover, it has created the possibility that these qualifications can be certified by state-recognised diplomas.

This paper describes how this new approach to qualification and certification works in practice in four large French companies. These, like many other companies, see themselves as people companies : their most important asset are qualified and motivated employees. In order to achieve the level of competence they feel necessary to win in a competitive world they want to turn themselves into "learning organisations" manage their human resources as skill/competence resources. The "learning" in such an organisation is stimulated by enabling everybody to judge the result of their own work in how it serves the companies common objectives. We in the Ministry feel that there are three fundamental pre-requisites for this to be possible :

1. The employees must work in units they can understand in their input/output function and these units should be managed as teams.
2. The team and its members must have autonomy and be made responsible for the results of their work in terms of quality, cost, lead times, output etc.
3. The various units making up the whole company have to act like players on an internal market. Their relations should be buyer/seller relations and not that of a chain of departments each doing its own bit and passing it on according to a line of command.
4. The supervisory staff has to be trained to be consultants, advisors, co-ordinators and coaches for the people in addition to fulfilling the traditional jobs of assessment and target-setting.

The next part of the paper describes how these job groups work in the companies in order to draw up a list of desired/required and meaningful qualifications. The result is the so-called system of reference. The companies and their employees will use this list as a basis for individual learning/training contracts under which the company and the individual agree to achieve one of the qualifications through a training program. At this point the co-operating company can also ask the Ministry to create diplomas for the new qualifications.

The second part of this paper explains how these diplomas are set up and how the corresponding syllabus ("référenciel") for training and certification is put together.

The third part describes how the training for this syllabus is integrated into the real work situations.

And finally we will deal with the approaches necessary for an intellectual underpinning of the competencies needed in the future.

The job group and its modus operandi

As the overall aim of this team is to define the new skills that will turn a person at work into a protagonist in the firm, thus no longer merely someone who carries out orders, it necessarily has to include members who have experience of the jobs. Hence it is made up of representatives of the firm (department heads, supervisory staff, operators) and consultants from the Ministry whose main task is to provide help in methodology (advice and technical assistance).

The job group's objectives are:

- to define the specific attitudes in terms of expected behaviour in each field of professional activity;
- to try to determine the professional conditions (resources, contacts) that will enable each person to be autonomous;
- to do all this within a participative structure that reconciles two hitherto antagonistic forms of instructions (firm/department of education).

The output of the team's work is a list of skills, called the system of reference. At the same time the job group comments this system with the view to facilitate the global training project's integration into the firm's strategy.

The group carries out its analysis based on three concepts:

1. ***All professional situations are educational***

   They enable technological, scientific or communication tools to be put into action. This is a necessary condition for each individual to achieve a true command of the processes (manufacturing, management, maintenance or other) and attain autonomy and responsibility. The term "autonomy" may be somewhat ambiguous and has to be explained. The broad everyday meaning of the word, i.e. "being able to freely determine one's acts" should be narrowed down by adding "within one's own sphere of competence and in compliance with the rules governing life within the firm". This is the same basic restriction under which the autonomous citizen determines his/her personal choices in compliance with the rules governing life within the group s/he belongs to. Otherwise his/her behaviour would not be called autonomous but anarchic. Also the professional has to make his/her choices after analysing all the parameters of the situation in compliance with the rules governing life within the firm.

As all professional situations are considered educational, the whole firm can be used as a resource to help each of its actors to progress towards the desired goal.

2. *A skill can only be integrated by all the actors, if it is clearly defined as an objective*

The job group, therefore, strives to express a skill according to the three following parameters:

- the ability is described as an observable and measurable action;
- the conditions for expressing the ability are drawn up in a list. This will be one of the many resources for training and carrying out the activity;
- the expected results are made measurable, thus enabling the individual to assess at which level s/he is able to master the ability.

The desired skill is the 'right' combination of these three parameters.

3. *The learning contract*

Based on these definitions of skills, the firm and each of its actors stipulate a contract in which they mutually define an individual training plan to rediscover the individual's identity as a professional within the firm.

Technically the job group proceeds in three steps.

1. It draws up the most exhaustive inventory possible of the tasks carried out by operators starting from professional situations;
2. It groups these different tasks together according to common objectives (e.g. analysis, communications, etc.);
3. Out of this it deduces the operational abilities to be learned.

The procedure takes the form of brainstorming sessions during which the system of reference is built up. The result is a chart with three columns (Example EDF French Electricity):

- the first column specifies the abilities;
- the second shows the conditions for their achievement (i.e. the conditions under which the individual can act). In fact, it means compiling an inventory of all the resources necessary for the implementation of the desired ability and
- the last column specifies the expected results (criteria of success).

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Creating diplomas for the new qualifications

Based on the work done by the job group, the companies can ask the State to create diplomas for their professional branches.

In France the process of defining vocational diplomas is driven by the Ministry of Education consulted by a professional commission (the Commission Paritaire Consultative [CPC] comprising staff management, social partners, employees and teachers). This process consists of a number of steps which also include the set-up for teaching the required syllabus :

- Policy for the ranking of the different diploma levels in vocational technical training
- Announcement of the new diploma to be created ("Publication of Diploma Opportunity")
- Definition of the syllabus of professional activities covered by the diploma and its pedagogic objectives
- Definition of the certification syllabus for the diploma agreed by the CPC
- Institutional development (teacher training, opening-up of professional sectors)
- Evaluation (under educational, institutional and labour market aspects).

In the following three of these steps will be explained in more detail.

A. *The syllabus of professional activities covered by the diploma and its objectives*

The syllabus of professional activities is a document which defines technical teaching leading to each diploma. It is drawn up after the CPC opportunity is announced and before the certification syllabus is defined. It describes the professional activities which the diploma holder will have to perform. The document is supported by an analysis of the activities and foresees the trainee's evolution as described in the dossier of the Opportunity Announcement. This is not the description of the professional activities the beginner will be doing immediately after finishing the training, but identifies a further reaching professional goal, taking into account a process of adaptation to the job and professional integration.

The syllabus of professional activities has to fulfil several functions (the following is the example of LA POSTE [French Mail]).

1. It serves to mediate between the different parties involved in the conception and definition of the diploma. It allows :
   - those who participate directly in working groups to define the purpose of the professional diploma;
   - consulting bodies to express their position supported by arguments.
2. The Syllabus of Professional Activities (R.A.P.) is used by the teachers to understand the professional objectives of the diploma and work out the

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appropriate training. It provides a functional tool for defining the diploma and the training.

3. It then has the function of informing various organisations and audiences, such as "ONISEP" (the National Guidance Organisation), specialists in training and orientation and the human resources management departments within companies, who are asked to take notice and inform others on the professional scope of the diplomas.

B. The certification syllabus

The Certification Syllabus is an official document describing the expected competencies for a professional field tested in the diploma exam. It is based on the evaluation process , and on the Syllabus of the Professional Activities it refers to the work situation. In other words, the syllabus specifies what will be evaluated in the exams and how it will be done. The diploma attests that the expected competence has achieved.

It sets the guidelines of what the candidate is asked to perform during the technical and professional examination[2] and defines the evaluation whatever form it may take (tests during training, final examination etc.). So, the Syllabus provides the terms of reference for a contract of objectives between the different training parties (training institution, trainer, the trainee, the company) and also takes into consideration the provision of equipment, guides/guide lines and the contents of the training.

The general structure of the Certification Syllabus is a two-part description of the desired competence and three functional tools (Example LA POSTE):

- a description of the capabilities and know-how
- a description of associated knowledge
- the definition of the relation between the Syllabus of Professional Activities and the Certification Syllabus;
- a summary presentation of the competence;
- the definition of the relation between core know-how and associated knowledge.

Both of the descriptions follow their own specific logic which are outlined in the following.

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[2] The idea of the Certification Syllabus for a professional field relies on the fundamental (and yet undefined) distinction between these diplomas and in-house degree course training in the French system of vocational and technical teaching.
The syllabus does not mention how to acquire the defined competence. It only states what is expected at evaluation.

The description of capabilities and know-how

The general capabilities

The general capabilities section consists of a general description and in parallel an interpretation of the know-how. At the same time, it is a method of grouping the know-how and a collection of elements which will be found across many Syllabi (e.g. ability to analyse, prepare, execute, communicate ...). Nevertheless the basis of the description rests on the list of the know-how items.

Know-how

The know-how section deals directly with the tests to be expected in the certification exams.

There is a part defining "to-be-able-to" items which are defined on the basis of the list of tasks and functions, compiled in the Syllabus of Professional Activities. They are described by verbs of action and by the object to which the action applies (formerly this list was called "we will ask [you to ...]").

A second part defines the conditions under which the action has to be carried out i.e. the available resources (data, material, information....) given to the candidate and the environment in which it is executed (actual or simulated situation etc.).

A third part defines the evaluation criteria in terms of expected performance, that is to say, the results the candidate is asked to produce. The level of performance must be in accordance with the descriptive elements of the Syllabus of Professional Activities.

The functional tools

There is a chart showing the relationship between the know-how and the associated knowledge. The description of the associated knowledge consists of two sub-headings : the knowledge itself (ideas and concepts) and the degree of this knowledge required for passing the exam.

The knowledge is not described in terms of examples or lists of products, but instead as the necessary ideas and concepts. Depending on the specific case, some such descriptions may refer back to scientific disciplines (e.g. geometric elements needed), and other technical ideas (forms and functions of tools in mechanical manufacturing) as well as yet others referring to practical knowledge (like the customary practice for welcoming clients). This list of ideas and concepts indicates the degree of precision of knowledge for passing the exam.

How to organise the training within the work situation

As mentioned in the introduction the best way of integrating work and learning is to create a "learning organisation". In ASCOFORGE (a large steel mill) the competence system is characterised by five "generic" abilities which run across all jobs and activities - Analyse, Decide, Act, Evaluate, Capitalise. This is the fundamental intellectual process to solve new problems arising out of the complexity of production systems, but it is of

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course also the cycle of action learning. Therefore an organisation adopting this chain as the principal of work is a learning organisation by definition.

Hence, our approach together with ASCOFORGE is :

1. to enforce the logical (problem solving) processes as they are conducive to learning ;
2. to subdivide the organisation into small working groups which automatically gives responsibility and autonomy to the members of the teams and makes "Action Training" possible ;
3. to evaluate the employees in their work situation which is another way to integrate the training into the work. The evaluation by management at the work place has to be followed by a critical analysis together with the employee. This analysis has to cover: the process adopted for resolving the problem or controlling the situation and the training and management measures necessary for improvement. All evaluations are recorded on a master sheet showing the different levels of competence and the training needs. This is called 'Evaluation Training' ;
4. to shadow the training sequences with competence control. These sequences are defined in terms of the objectives, the expected result and the work demanded from the employee. To control this, we use well-defined evaluation modes.

The training is carried out by the management or external trainers (National Education) but always in the work place, in resources centres and/or in workshops.

What type of competence will be needed tomorrow?

The consensus among our clients is that in future they will require know-how or ability to competently handle a host of different, sometimes unexpected situations. Therefore, the PEA corporation, a French FOOD PACKER, has decided to describe the ability/competence it would like to see in its employees as their capability to be in command of their work situations.

1. This capability requires that the employees are able to use one or some of the following intellectual approaches:
2. The "sequential approach" is of the problem-solving type as described in the previous section;
3. The "system approach" consists in taking an active part within the system;

The "critical/self-analysis approach" consists in asking why the current practices exist and reflecting on one's own performance in them (therefore this 'giving significance' concerns both theoretical and practical matters).

These types of professional ability presuppose a knowledge different from the one of the "know-how" type. Know-how implies a knowledge of the concept/subject, whereas Intellectual action needs knowledge of the methods and tools for reasoning such as logical analysis, hypothetical deduction, empirical insight or system analysis.

Therefore we are going to establish, together with the PEA corporation, a list of the knowledge and ask local training/teaching institutions to organise workshops on logical thinking based on real life work situations.

Conclusion

The various undertakings of the French Ministry for Education show a very hands-on approach for further qualification of the French workforce by bringing education institutions closer to the work place. The inputs for all programs are taken from the very place where the future job profiles develop - inside companies. The companies get the talent they think they need for winning in the global market and the employees are rewarded not only with certified and marketable qualifications but also with a much more satisfying role in their company.

But this type of training system has implications far beyond an upgrade of skills and abilities : it contributes to the development or survival of the company, to a change of organisation modes, to the valuation of individual and collective competencies and to anticipation of future developments.

For me, this collaboration with the management teams of these companies has been an excellent opportunity for research, self-development and delivering training!

Discussion

VAIDEANU : Several times you have mentioned a new presentation of the evaluation and assessment issue and I think it's a very important area in the VET-system, a very important moment in training and key to this process of integration of learning and work. Could you tell us, in a few words, what the steps in designing evaluation standards and in writing evaluation items are and who carries these out in France? The employers, the educators?

RAYNAUD : Evaluation and assessment is developed by teachers and companies together and the Ministry assists in this process. At the moment the diploma and certification system are being dealt with. It is a mammoth project for the Ministry and there are specialised companies who only go to enterprises where the programmes are being carried out. There they solve the real problems in the work environment. Evaluation for training at this level has been academically researched as much as is necessary in order to reach this certification level. The companies insist on having more information and more methods developed. They want more co-operation in curriculum development but above all to be told how to train and not so much what to train people in.

NI CHEALLAIGH : If I've understood it correctly this seems quite an interesting procedure because it means then that there's a lot of contact between the schools, the vocational teachers in the schools and the

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enterprises in France. Is it quite normal for a company to invite teachers or to have visits from teachers ? If that is the case, the training of the trainers or the vocational teachers could be developed in some way, because I think one reason for our a problem is that the teachers don't have enough up-to-date knowledge about what's happening in the enterprises.

RAYNAUD : In general that's the tendency in France. Most companies are open to having vocational teachers come and work in enterprises and to participate in in-company training. But it's not yet a general rule. It's a good development which deserves support.

THE INTEGRATION OF WORK AND LEARNING WITHIN A NETWORK OF DIFFERENT VET LOCATIONS (SCHOOLS, TRAINING CENTERS AND COMPANIES)

Günter Kutscha

1. Vocational training in Germany – from a "dual" to a "plural" system of VET locations

The integration of working and learning has priority with regard to vocational training in all European countries. In this context, the network of working and learning at the in-firm workplace as well as the co-operation with scholastic and inter-company learning locations are of relevant significance. If we look at vocational training in Germany, it becomes clear that this system has long been moving from a dual to a plural system of learning locations. With regard to large-scale enterprises, there is a tendency to decentralise training while, at the same time, developing new combinations of learning locations, for example the network of the in-firm training workshop, workplace and learning islands. The vocational school, too, tries to replace the traditionally mainly theory-oriented teaching by new forms of practice-oriented teaching and to test new learning locations for a combination of theory and practice, for example, learning offices in commercial vocational training. This paper will show this development in more detail. The leading thesis is: the change from a "dual" to a "plural" system of learning locations cannot be stopped and is absolutely essential for the modernisation of vocational training. At the same time, it is pointed out that the co-operation and co-ordination problems within a differentiated system of learning locations have not yet been solved. They belong to the most important tasks of the vocational training reform in Germany as well as in other European and non-European countries.

There are developments of internal differentiation in the vocational training system which make it more and more inappropriate to speak of it as a "dual system". The well-ordered world in which the vocational school had to impart theory while the firm had to convey practice is a thing of the past. We are not dealing with only two learning locations anymore: inter-company training shops are taking over necessary functions. The vocational training system no longer gets its specific system features from the traditional form of a training organised at two places: the workplace complemented by additional vocational school lessons. Today, this configuration is an exception. More often the vocational training system operates with a diversity of learning locations and flexible teach-learn arrangements as a basic requirement for the productivity of structural services. Especially in the 80s, it became obvious that the vocational training system could enormously improve its efficiency because of the variability of the organisational elements and procedures.

This observation concerning the learning locations is also true for directing the vocational training system (Kutscha 1997; OECD 1994). This function does not feature any "duality"

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whatsoever. It is based on the following principles (according to the provisions of the Vocational Training Act of 1969):

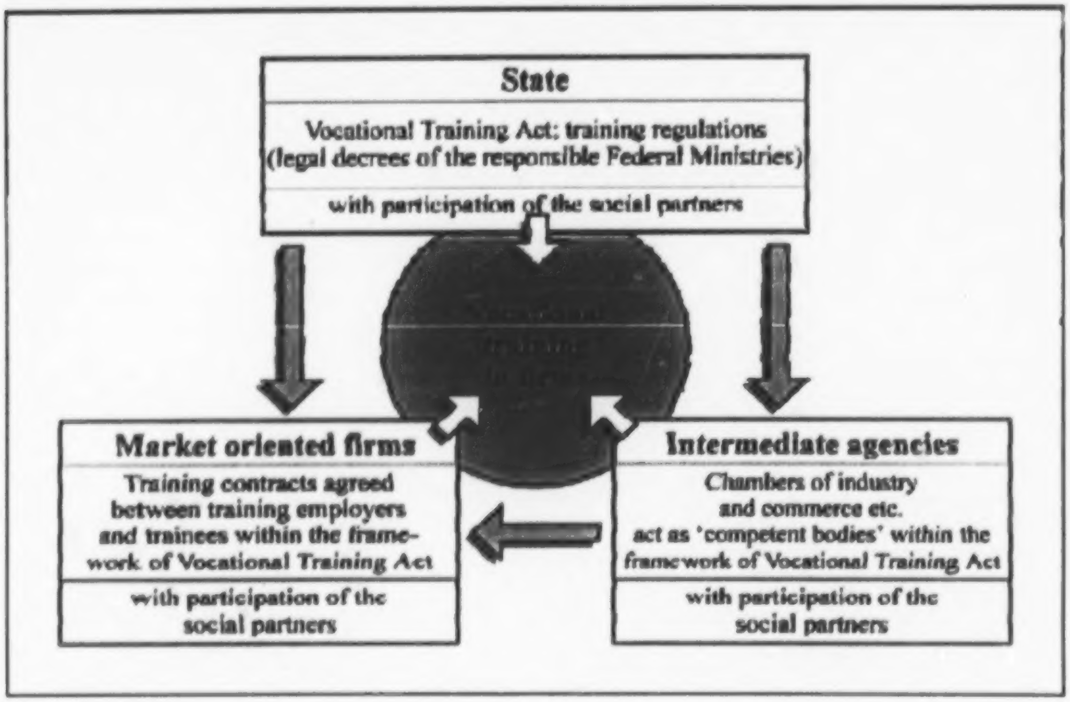
- freedom of contract when creating new training places;
- state responsibility for the regulations of vocational training in firms (the Federal Government and the Federal Ministries are responsible) and for the curricula of the vocational schools (under the responsibility of the Federal Länder and the Conference of the Culture and Education Ministers of the Länder of the Federal Republic);
- corporative structure of planning, decision-making and controlling bodies (e.g. through inclusion of associations and trade unions when developing training regulations or through transfer of examination and control functions to the chambers as self-governing institutions in the economy).

This mixed structure of state, free-enterprise and corporate elements has enormously increased the control capacity and adaptability of the training system and has contributed considerably to the fact that, in international comparison, training investments are transacted on a relatively high level. However, the fact that different authorities are responsible for different domains and the complicated steering system make co-operation of the learning locations difficult, especially that of training firms and vocational schools. The co-operation of learning locations is one of the most important and one of the most difficult tasks in the reform of the vocational training system. Empirical research commissioned by the Federal Institute for Vocational Training (Bundesinstitut für Berufsbildung, BIBB) has shown that the co-operation of the instructors in firms with teachers in the vocational schools occurs only occasionally and unsystematically. Before I discuss this at the end of my paper, I want to deal in more detail with the different learning locations and explain which tasks they have taken over. In my presentation, I will refer to the results of our own research in the Ruhr area (Eckert/Höfkes/Kutscha 1993; Klose/Kutscha/Stender 1993).

2. Learning locations in the industry and the craftsmen's trade

In industry, learning happens mainly in training workshops whereas in the craftsmen's trade the place of learning is mainly the workplace, where the major part of the training is done in the foreground. In craftsmen's training, the practical part of vocational training stands and falls with the quality of this training environment. Apprentices who had finished their training period mentioned the following aspects as being very important: diversity and adequacy of the assigned work tasks, the extent of independence in executing the tasks and finally, also the working conditions.

The information from and judgement of the interviewees vary considerably. Some apprentices give a positive opinion because they are allowed to take over multifarious tasks and really participate in the work. They see before them interesting perspectives for their future professional development as their craft opens a wide field of possibilities e.g. in electrical engineering. However, there are more than a few cases where the in-firm training is heavily criticised because the apprentices are only permitted ancillary jobs and qualified tasks are only executed by the fully trained. The interviews with the apprentices in the skilled trades show that the above-mentioned problems tend to be more likely in larger shops.


State
Vocational Training Act; training regulations (legal decrees of the responsible Federal Ministries)
with participation of the social partners
Market oriented firms
Training contracts agreed between training employers and trainees within the framework of Vocational Training Act
with participation of the social partners
Intermediate agencies
Chambers of industry and commerce etc. act as 'competent bodies' within the framework of Vocational Training Act
with participation of the social partners

Apprentices in medium-sized enterprises are in an extremely disadvantageous situation anyway. Usually there is a higher ratio of apprentices in medium-sized enterprises. But – in contrast to large-scale industrial enterprises with a high degree of organisation concerning vocational training and vocational further education – medium-sized enterprises are not big enough to appoint full-time instructors or to overcome training deficits with supplementary institutionalised in-firm training offers. Yet, in contrast to small enterprises, medium-sized enterprises are too big to be able to compensate for the lack of degree of organisation in a large-scale company by personnel-intensive care, as an additional function of the master craftsman.

The inter-company training workshops of the skilled trades take over a very decisive compensating function. They cannot be compared to the training workshops of industry, although their didactic organisation is similar. The inter-company training workshop is a learning location where the craftsman's apprentices are systematically taught those training topics which hardly ever occur or cannot be learned well enough in a firm's practice. Inter-company training workshops are courses which complement in-firm training. These courses are well-accepted by the apprentices and are regarded as being valuable if the in-firm training is unfavourable and offers no learning chances.

The (part time) vocational school also takes over an important function in the craftsmen's training which complements the training and compensates deficits. It specialises on professional theory and also provides further general education e.g. German language, politics and religion. But the professional theory of the vocational school and the professional practice in the firm have a strained relationship. While some apprentices regard the vocational school as an indispensable part of training, others complain that the knowledge taught there is of little use. The criticism is however ambivalent: on the one hand, the vocational school is criticised because it does not orient its level of knowledge to the requirements of professional practice and does not set the right priorities. On the other hand, the in-firm practice is criticised. If this practice does not involve theory and if demanding theoretical jobs, for example, design and planning, start-ups or troubleshooting, are delegated to specialists and transferred to special departments, then the apprentices and maybe also fully trained young will just work as a "hand" and the knowledge taught at the vocational school is not needed. Of course, not a single individual in our interviews wanted to see him/herself in this position. That does not fit the role model of professional work they envisaged for themselves.

As a result , I wish to stress the systematic character of the learning-location plurality in vocational training. A particularistic view, which is limited to single learning locations and maybe even questions the right of other learning locations to exist, is short-sighted. What we need is an ecological concept for arranging relations between learning locations and learning fields. The question therefore is, how the specific learning location can be proportioned. For this, one needs a general leitmotiv for the various learning locations which are part of the vocational training. The new training regulations for firms (since 1987) and the framework curricula for vocational school instruction following the regulations build on the fact that the different learning locations in vocational training have a common overall objective: vocational training should be practice-oriented in every domain and vocational, social and human competencies should be imparted. With regard to vocational competencies, the trainees should become qualified to autonomously deal with complex tasks. They should, as the training regulations say, be capable to plan, execute and control their jobs. To achieve this objective it is not sufficient that the learning processes are organised in a practice-oriented manner within the different learning locations. The learning locations have to co-operate more intensely.

This is a very ambitious programme. It does not say whether the objectives of the curricula are really turned into practice. What is learned and how it is learned, as per my thesis, is not primarily a question of training regulations and curricula, but is primarily dependent on the concrete conditions and events in the particular learning locations and, in particular, on how the apprentice experiences the relations between these learning locations. This learn-ecological perspective has been worked out in detail by Urie Bronfenbrenner (1979). Events in human development which are relevant for learning, according to the view of empirical sociology – I especially refer to Kurt Lewin's and Urie Bronfenbrenner's approaches and the subsequent research – depend on:

- the structural conditions of the respective learning field where a learner is and on his or her subjective perception thereof;
- the interrelation of the respective learning field with other spheres of the learner's life, the way he or she experiences it and how it is considered by his or her direct contacts;
- the way in which changes between different learning fields take place (for example, from school to training firm, from one department of the training firm to another, from workplace to training shop, from training period to employment);
- the influences of all the cultural subsystems in which the learning fields are embedded.

It is obvious that one cannot test the learn-ecological approach in lab experiments; this would be a contradiction in terms. More useful are 'ecological experiments'. These are experiments in real environmental conditions. In German vocational training such ecological experiments are carried out in so called model experiments. For in-firm vocational training, they are organised by the Federal Institute for Vocational Training (Bundesinstitut für Berufsbildung). There are also such model experiments in schools. The Federal Government and the Länder participate in these model experiments under the umbrella of the Federal Government-Länder Commission for Educational Planning and Research Promotion (Bund-Länder Kommission für Bildungsplanung und Forschungsförderung, BLK).

As an example of an in-firm model experiment, I will describe the learning location network within Daimler Benz AG (Dehnbostel/Novak 1995). This example shows how the differentiation and co-operation of learning locations can develop under the conditions of a large-scale industrial firm. It is a best-practice example and in no way typical for the normal workday training routine in other firms. However, it shows how the quality of vocational training can be improved through an optimal combination of learning locations.

At the end of the 1980s, the reorganisation of the metal and electrical engineering trades provided the impetus for modernising vocational training in firms. As well as testing out new training methods and new ideas on teaching and learning, these models increasingly drew attention to the importance of the location of learning and the problem of integrated learning in the sense of linking learning and working in the workplace. This development may be seen in the context of participative forms of organising labour, the re-professionalisation of skilled work in production where tasks are integrated and the growth of learning potential in the workplace. The associated problems and questions are the subject of a series of experiments entitled "Decentralised Learning", initiated in 1990 under the aegis of the Federal Institute for Vocational Training. Within this programme, new forms of work-related learning, integrative connections between learning and working and new combinations of learning locations are being developed and tested (for details see Dehnbostel/Holz/Novak 1992). "Decentralised Learning" is deliberately intended to contrast vocational education that takes place in central training institutions and is mainly independent of the workplace.

The research team from the Federal Institute overseeing the project states: "Decentralisation may be seen in the delegation of responsibilities and competencies and in the extension of the relative autonomy of firm-based learning locations. It encompasses both didactic and organisational aspects.... A network of learning locations is formed which revises prevailing divisions between learning locations and centrally planned learning processes and structures. In didactic terms, this results in a move away from closed, centralised conceptions of learning. The aim is to introduce open, experience-guided learning processes and to connect these with systematic vocational learning. At the same time, learning is oriented towards group working, organisational learning and individual learning" (Dehnbostel 1994, p. 7). The aims of this ambitious programme could be summed up as follows: integrated learning occurs through decentralisation of vocational training and the combination of learning locations in firms.

One example of this series of experiments began in the commercial and technical training of Mercedes-Benz in Gaggenau in 1990. Since 1992, other small and medium-sized firms have been included in order to test the transferability of the scheme at an early stage. In the words of those participating in the project, the heart of the experiment lies in redefining learning opportunities within the firm and in developing and testing a new learning location within the production process – the 'learning island'. In the view of

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integrated learning, the "learning island" is the prototype for a form of modern vocational training in large industrial plants where tasks and functions are integrated in production processes.

Up until recently, vocational and technical training in the Mercedes plant at Gaggenau was a typical example of centralised vocational training. According to the candid report of the training manager, "the workplace in the firm was seldom chosen as a learning location" (Bittmann/Novak 1994, p. 14). The retreat of vocational training from the workplace came about in the 1960s and 1970s as a consequence of criticisms expressing concern that production processes tended to inhibit training, that there was an over-emphasis on practice in training and, as a result, the longer-term interests of apprentices were being neglected. Under the influence of changing production structures around the mid-1980s, the question was put as to whether the firm could be regained as a training place and firm-based workplaces reactivated as learning locations. Around this time, far-reaching changes in the labour organisation were in the offing. The end of the strict division of labour was in sight and, with it, more comprehensive conceptions of production that would embrace several work processes and functions (Bittmann/Novak 1994, p. 15). With this background those in charge of training were led to design "learning islands" in the middle of the production process as new learning locations.

Learning at Mercedes-Benz in Gaggenau is now organised on the basis of four learning locations: the training workshop, the applied workshop in the training centre, jobs within the firm to which apprentices can be transferred and, learning islands. Taking over a job within the firm comes before a stage at a learning island. This allows apprentices to focus on individual qualifications at a learning island and then to extend and deepen their knowledge while doing real work. Learning islands are supposed both to reflect the work environment and to support the integration of working and learning by providing a learning infrastructure. The connection with the production process is realised through "learning loops". In concrete terms, this means: first, a vehicle is removed from the normal production line and transferred to a special box. There, it becomes the object of various functionally integrated learning tasks. In contrast to the situation in the workplace, there is no time pressure. The loop is supposed to create an atmosphere which promotes learning, modern forms and media are supposed to assist learning, and group working is made possible. Once the learning tasks are completed, the vehicle is put back into the continuously running assembly line.

In the meantime, different types of learning islands have been developed at Gaggenau, for example, for servicing, maintenance and repair, aggregate assembly, vehicle assembly and production at CNC processing centres. The following design criteria underlie the learning islands (Bittmann/Novak 1994, p. 15):

- connecting learning and working directly in the production process;
- systematised and structured learning processes on the basis of real situations and real tasks;
- learning in teams drawn from several occupations;
- a high degree of independence, autonomous organisation and self-guidance in the design of learning and working cycles;
- personal responsibility for the technical quality and social processes;
- value criteria for choosing workplaces for training;

- coaching and advice from an experienced skilled worker out of the relevant production sector.

The experiment in Gaggenau received a great deal of attention from those involved in training issues in Germany, but it also provoked some scepticism. It hardly needs to be emphasised that the successful carrying out of this experiment relies on many economic, organisational and technical features specific to the training firm. And quite apart from the special case of Gaggenau, the "ecology" of a large automobile plant is neither immediately comparable with the training conditions for other occupations in large-scale industry - for example, for business training - nor does it offer a "model" for commercial and technical training in small and medium-sized firms, in particular in crafts shops. In both business and craft training the whole problem of integrated learning presents itself quite differently, not least because training in the workplace is already an accepted part of instruction and takes up a large part of the training period (up to 60 per cent of the time).

3. Action-oriented learning in the vocational school

Under the influence of the new training regulations, one may see a clear convergence to an overall didactic conception. Enabling students to act in an occupational environment is a declared aim of vocational education and training not only for training firms but also for the (part time) vocational schools. For both, this idea functions as an integrative concept for the transmission of technical, human and social competencies. Therefore, the framework agreement of the Conference of the Culture and Education Ministers in the Länder of the Federal Republic (Kultusministerkonferenz 1991) contains the following sentences concerning the vocational school: "the vocational school aims:

- to transmit the ability to carry out an occupation in a way that combines technical competencies with general human and social abilities;
- to develop flexibility in dealing with the changing demands of the world of work and society with special reference to the growing integration of Europe;
- to create a readiness for further and continuing education;
- to promote the ability and readiness of students to act responsibly in shaping their own lives and participating in public life" (Kultusministerkonferenz 1991, p. 3).

In order to achieve these aims, the vocational school, following the recommendations of the Conference of the Culture and Education Ministers of the Länder of the Federal Republic, is supposed to "direct its instruction towards a style of teaching and learning specific to its tasks which emphasises an orientation towards action" (Kultusministerkonferenz 1991, p. 3 f). At present, action-orientation is the central aim of "internal revision" in the vocational schools. Both old and new forms of integrated learning gain in importance given the need to transmit the ability to act effectively in a job environment.

Nevertheless, what exactly is intended by "action-orientation" and what does "integrated learning" mean in this context? One of the new comprehensive action-oriented curricula for vocational training in metal engineering contains the following statement (Culture and Education Ministry of Lower Saxony - Niedersächsisches Kultusministerium 1994, p. 6):

"the development of action competence as a guiding aim of the vocational school gives us the opportunity to take up an old goal of vocational educators, that of organising learning in contexts. This becomes possible through an integrative conception of learning which proceeds from a comprehensive image of work and focuses on independent planning, execution and evaluation as a whole. The following conclusions for teaching and learning may be derived from action theory:

- Action is the starting point for learning; if possible, it should be a concrete, practical action or at least one that can be mentally reconstructed.
- Action must connect with the learners' experiences and address their motivation.
- As learners make progress, they should increasingly plan their actions themselves and execute and evaluate them.
- Action should promote full sensory experience of reality and the integration of different sensory perceptions (a comprehensive grasp of situations).
- Learning should be accompanied by social and co-operative communication processes.
- The results of the action must be integrated into the learners' experiences, and learners should reflect upon their social usefulness".

Similar aids for orientation may be found in the guidelines and curricula of other ministries. Yet, however much the significance of the action-orientation for vocational education is stressed in these documents, by necessity it can only refer to the learning conditions as they are organised in schools. Situations where vocational action might occur can only be represented through simulations under school conditions – if at all. This limits the possibilities of integrated learning, but it also opens up other learning opportunities by reflecting on the everyday experiences of the occupation concerned through suitably guided learning actions. Action-oriented learning in the vocational school means integrated learning actions in complex situations which are structured by well thought out teaching and learning arrangements.

Examples of such teaching and learning arrangements include approaches which are as old as the hills – for example, role-playing, planning games, practice companies, case studies and project-based teaching (cf. Achtenhagen 1997). Although there seems to be no doubt among educationists as to their usefulness, it has, until now, proved extraordinarily difficult to implement them on a large scale. The special challenges of action-oriented learning, therefore, do not primarily lie in inventing new methods of integrated learning. It is far more decisive that the already known ideas of teaching and learning are systematically built into compulsory instruction and compulsory training and, as a result, lose the exotic charm they have enjoyed up to now.

4. Co-operation between vocational schools and training firms - approaches and problems

As early as 1972, delegates from the Federal Government and the Education Ministers, in a "Common Declaration", agreed upon a procedure by which firm-based and school-based training were supposedly guaranteed (cf. Benner/Püttmann 1992). The aim of this procedure is to ensure that vocational training is perceived as a "shared educational task"

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of training firms and vocational schools (Kultusministerkonferenz 1991) and that these parties therefore create the appropriate planning conditions. It was as outlined in detail which elements should be mainly the preserve of the training firm and which should be taught in the vocational school. Furthermore, those elements were defined that both the Dual System's learning locations should be involved in teaching - in some cases, each learning location was assigned a specific role.

Experts in vocational education research and planning on the whole take a positive view of this co-ordination procedure. There were certainly good reasons for it in the past. However, given the changed conditions brought about by new information and communication technologies and the growing importance of integrated learning, one must ask whether the principle of a central assigning of training tasks to training firms and schools is still functioning. In practice, co-ordination usually results in the firm taking on the task of transferring practical experience and the vocational school of passing on theory. Such an approach to planning hardly fits in with the principles of integrated learning. But what alternative is there?

The problem of integrated learning which encompasses the training firm and the vocational school is unlikely to be solved by decree from the centre. Practical successes are most likely to come from decentralised approaches to co-operation between learning locations (cf. Pätzold 1990; Pätzold/Walden 1992). The problems associated with such approaches are enormous because of the structural differences between firms and schools. There are few interfaces between the two where productive co-operation can take place. Model experiments have strongly emphasised that no learning location - neither firm nor school - is autonomous (cf. Diepold 1991, p. 5), but each is a subsystem of a social context: the economy and union participation or education policy and state administration. Furthermore, co-operation needs time, which, according to the instructors and teachers, is better used for the job of teaching and learning "on the spot". According to survey results, by far the most frequent reason for either side to seek contact with the other is learning difficulties of the apprentices, followed by problems with discipline and matters relating to intermediate and final examinations. The conception and execution of shared projects, co-ordinating learning content and exchanging information about training and teaching methods are hardly ever occasions for co-operation. The most common forms of contact are telephone conversations while there are few attempts at systematic co-operation. There can be no doubt that the importance of co-operation between training firms and vocational schools will increase in the future when both have to respond to the challenges facing the Dual System. Co-operation between learning locations is the prerequisite of practising integrated learning when combining learning locations.

In practice, vocational education in the Federal Republic is still a long way from achieving this aim. New impulses may be seen in the transition projects in the former East German Länder (cf. Kudella 1995). Unlike the former West Germany, the old German Democratic Republic had a relatively well institutionalised form of co-operation between learning locations. After the reunification of Germany, the old vocational schools were abolished as part of the privatisation programme . However, the kind of intensive contacts between learning locations practised in the GDR is continuing partly on an informal basis. Although the conditions for co-operation under the Dual System are now structured differently, the experience of co-operation can provide starting points for thinking on how to extend co-operation into the present set-up.

The results of empirical research show that the co-operation between training firms and vocational schools in the Dual System has not, by and large, been successful. However, there are some positive examples. Instead of being too demanding one should concentrate on such forms of co-operation which can be realised in the everyday routine of the schools as well as the training firms. Some approaches are suggested in the following list(cf. Buschfeld/Euler/Reemtsma 1995):

- Co-operative action can refer to exchanging information. Teachers and instructors provide insight into working fields and working processes. They comment on expectations, experiences, ideas and problems of the normal workday routine. "To inform" means two things: giving information and - commonly less considered but also important - receiving and perceiving information. It is in no way obvious that circular letters from the vocational school are read in the firms or that they reach the addressees on time.
- Co-operative action can take place as a form of co-ordination. Teachers and instructors orient their own acting according to the acting of others. They arrange and develop measures like a co-operative investigation task which they carry out based on division of labour and responsibly within the framework of their particular institutional conditions. Co-ordination also means two things: sticking to agreements once they are made as well as the tolerance to agree or disagree. Such a co-operation does not exclude conflict: typical areas of conflict are the rejection of another person's claims to take over "training contents" or regarding the exam preparation.
- Co-operative action can also reveal a form of working together: teachers and instructors pursue responsibly, within the framework of a direct teamwork and predefined goals. Teachers and instructors take common action regarding the apprentice; for example, when training subjects are agreed upon and carried out by both parties together.

Let me give a concrete example (cf. Buschfeld/Euler/Reemtsma 1995, p. 405 f.). It is about a co-operation form called "Practitioners in vocational schools". This is a model experiment in the retail trade. The term "practitioner" refers to an expert in the field, which is dealt with as a subject of the curriculum. In this example, it is "the position of the motor trade in the economy" as well as the opportunities for further education and promotion in the motor trade; a representative of the professional association had been invited to talk about these topics. The first visit was a speech with a subsequent discussion, the second visit one year later was an expert interview. The students guided the event while asking questions. Teachers and practitioners intensively co-operated in the preparation as well as the realisation in the sense that they had to agree topics and the methodological execution of this event. Advice from the teacher regarding the target group was as important as the selection and form of the instruction material.

From the teacher's viewpoint, a possible reason for this co-operation is to make the students more interested in such an abstract subject as "the selective sales system in the motor trade". The teacher noticed in both sessions that students who were usually reticent participated in the teaching. The students learn about the experiences and the competence of the expert in a way which makes them understand the subject matter from a perspective which is different to the one they have become accustomed.

Other reasons can stem from best self-interest of both participating groups. For the practitioner, the co-operation is a possibility to demonstrate his or her own working field

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or organisation and to thus serve his/her own interests - such as promoting particular courses offered by the professional association or the association itself. Another personal motive for such a commitment may be the challenge to hold one's ground in front of a class. For the teacher, it is important that the students experience his or her efforts for co-operation and his or her contacts to practice. In this way work for preparing and delivering some "unloved subject" can be traded against work for co-operation. The majority of the students reacted positively to the "expert interview" , because "it was different" and the "presentation of other subjects" appears to be interesting and "informative". They thought there should be better preparations for such "expert interviews". All in all, time was too short, for the preparation as well as for the realisation. Here, the thesis is proven that co-operation has its limits; in this case, time limits.

Conclusions

The general goal of vocational education should be to teach young people basic professional, social and human competencies which ease a successful entry into a professional career and which are a solid foundation for professional further education. Such competencies cannot be imparted through theory and school alone. The acquisition of competencies requires practical experiences. The Dual System of vocational education has the advantage that school and firm and also learning locations which are external to the firm are part of the training. However, the quality of vocational education is not only dependent on the form and number of learning locations. It is - as I have illustrated from a learn-ecological point of view - also determined by how the apprentices experience the relations between the learning locations. The problems of combining theory and practice, working and learning can be found, albeit in different forms, in every training firm. Therefore, it is important to gather as many experiences with different forms of learning location co-operations as possible and therefore it is important that, not only large firms set the tone. The integration of working and learning in a network of VET locations is too critical for every apprentice. This integration must not be limited to a few model experiments, essential as they may be in some cases. The co-operation of learning locations is one of the most important tasks for modernisation in all future European training systems, and this is a big chance to learn from each other across the boundaries of national systems.

Discussion

GROOTINGS :	Who is the moving force behind these innovations in Germany at the moment? Is it the companies who see that traditional vocational education is becoming more and more obsolete? Or is it the educators who are trying to implant new education models into the existing system?
KUTSCHA :	That's a good question. I'll start with the firms. They have been the promoters of these improvements, of these reforms and behind them, the Social Partners. They envisaged that in Germany we would only be fit for world-wide markets when we produced well-qualified products and were flexible, especially in the automobile industry. But in my paper which you have in your infopack, you

will see that I, myself, am very sceptical. You need a long time for dissemination. And so we have firms which are at the forefront of the reforms and others who are lagging behind. They say: 'It's too expensive. We cannot do it.' They then stop their apprenticeship programmes and so there's a lack of training opportunities for young people. Many critics say that good regulations sweep away good apprenticeship places, training places. That's one problem. In the schools there is another one. Self-organised learning means that the teacher is not only a teacher, but also a moderator of learning processes. But, in some cases, the teachers haven't yet learnt how to do this and some of them see an opportunity of 'professionalisation' in it. They say, 'well, it's an opportunity. We are not only teachers, but we are moderators, we manage learning processes and that increases our professional status and it's good for us'. Others say 'there's no time'. There's no time for action learning because there are the final examinations from the Chamber of Commerce. In Germany, in the dual system, the young people have to pass the examinations not at school, but before boards in the Chambers of Commerce. And the teachers say, 'we must transfer knowledge, so that they are equipped to pass the examination'. You see the idea is one thing, the reality another. But I think we cannot turn back now. This is a path of no return for vocational education and training. It will take time. But, and this is the main problem, as I said, we have a system of a true plurality of locations. At the same time, there is more and more one-location training, because there are not enough partner firms and, due to this, all the training has to take place in schools.

CHAIRMAN : You haven't described a network of VET locations consisting of companies and schools but only a network of VET locations within companies and then you described the situation in vocational schools. So what about the integration of work and learning between schools and companies?

KUTSCHA : I thought that one of you might ask this question. Yes, we need a network of networks. And I hoped to show you some examples of work experiments in the American School-to-Work experiments. As you know, the School-to-Work Opportunities Act was signed by President Clinton in 1994. It provides the States with grants for planning and implementing State School-to-Work systems and there are a lot of them. But there are three conditions that all States have to adhere to if they want to get grants; work-based learning; school-based learning and connection activities. And this is a problem we haven't solved in Germany yet. There are some experiments and there is research work being done in the Federal Institute of Vocational Education and Training in Berlin. But the results so far are not good because trainers in firms claim to have no time and teachers in schools regard the company trainers as not very competent. They feel that only they are the real teachers as they are university trained. And so there are social problems but there is also a problem of the whole set-up with the result that it

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only functions in particular cases. We in the University of Duisburg are preparing a research project. It's called 'Lern-Net' - learning, locations, co-operation and resource sharing in a network format. We hope to develop connections between firms, on the one hand, and schools on the other via the Internet. The teacher training seminars at university are equipped with servers so that the students can learn how to co-operate with schools and firms via the Internet. This is maybe easier for a teacher than going to a firm and arranging an exchange of work experience.

CHAIRMAN : I think there are a number of difficulties in Germany. On the one hand there are these wonderful new regulations, on the other hand we have these examinations and you know that the board within the Chambers is very autonomous and are not bound by these regulations. So there are situations where you have very modern regulations but old methods of examination. What can be done or what has been done so far to overcome this problem?

KUTSCHA : Well, it's difficult because the Vocational Training Act in Germany demands that the so-called responsible organisation - the Chambers of Commerce, the Chambers of Crafts and so on -are responsible for in-company training. Both, the firms and the schools are responsible for the training but only the Chambers of Commerce are responsible for examinations. And so the law should be changed to take into account the various activities, especially from the vocational schools. As they say, on the board of the Chambers there are the representatives of the Social Partners as examiners and the teachers are only considered as counsellors who don't decide and thus have little or no input regarding examinations. This is one of the factors one must change in order to make advances in connecting and integrating learning sites and locations.

CHAIRMAN : Could you just recommend the direction that change should take? Could you just give us your thoughts on this direction?

KUTSCHA : When I talk about changing from the dual to the plural system, I do not only mean the plurality of learning sites but also the plurality of the infrastructure organisation, the plurality of groups taking part. Also, plurality is not only a matter regarding the social partners because there are more and more young people who cannot find a place in the system and so we must have a generally pluralistic system in order to solve the problems we have in Germany now.

WEILNBÖCK-BUCK: Mr Kutscha, in your tabled paper, you described a new kind of in-company learning model in Germany. It would be interesting to hear something about the financing arrangements underpinning these new developments concerning in-company learning.

KUTSCHA : As someone who did his apprenticeship in banking and worked as a banker I'm very interested in financial questions and I feel I'm going to touch on some holes in the system. However, the situation is very complicated. At the moment, the firms pay for the main part of in-company apprenticeship. As I said the new regulations will lead to forms of apprenticeship which are very expensive. So there is a discussion going on that firms who pay for it or who say they cannot pay for it and must reduce their training places, should get a grant out of a fund to which all firms have to make contributions. But the firms say they don't want this type of money from the State because then the State will intervene in the apprenticeship system. We don't know what the effect of this model will be as it is still 'under construction'. All we see now is that, in spite of this model, there has been nonetheless been a reduction in learning places. There is reasonable fear that this fund will need too much organisation and may steer people and companies in the wrong direction e.g. encouraging training for occupations which are not needed but which will be chosen because of the resulting financial rewards and so on.

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PART III

HOW TO BRING LEARNING INTO THE DAILY WORK PROCEDURES OF COMPANIES?

An Organisation of Work to Promote Experience-based Learning
Johannes Steinringer

The Co-operation of Companies in the Framework of Training and Learning Partnerships
Janja Meglic

What to Learn in Companies: How to Produce Goods or How to Satisfy Clients?
Edwin G. Nelson

AN ORGANISATION OF WORK TO PROMOTE EXPERIENCE-BASED LEARNING

Johannes Steinringer

1. Introduction: The workplace is a key provider of learning experience[1]

In the field of vocational training, the European co-operation has the main purpose to learn about successful strategies of up-to-date teaching/learning and its implementation[2] A further objective is to see beyond today's practices and to develop new possibilities.

The dynamic development of economy, technology and society urges the reorientation of today's scientific approach, as well as of the didactics and the methodology for knowledge transfer. In the past, not enough tools were developed to give executives the necessary indicators for success and failure in managing human resources. Even the teachers, consultants and vocational trainers had to rely on traditional forms of knowledge transfer. Current developments have taken them all by surprise. Out-of-company training is in many cases too expensive and too slow and impedes the necessary holistic learning.

This paper does not primarily deal with the question of the necessary curricula or their transferability but with the question of how the integration of work and in-company or close-by-the-company learning can be achieved through organisational measures taken by the managers in charge. This is a market which was previously considered as an informal opportunity for education. In the past the importance of in-company training for vocational qualifications has been strongly underestimated. Thus integration of work and learning (IWL) may be an answer to the turbulent developments, which require new strategies. Thinking and acting can no longer be seen separately. These learning processes make work more interesting and improve its quality.

How can work and learning co-exist within a company? How can work and learning be integrated without devaluing either? Is there a basic management attitude, easing the integration of work and learning?

2. IWL is not always possible

A successful economy does not require any influence on its effective and economical working methods. Its performance must not be impeded - not even for training and continuing education. Therefore companies often react grumpily if the state intervenes in the work flow or if pedagogues wish to convert a company into a school. Therefore, it is not easy to find enterprises who welcome study trips into their companies. Teachers, like pupils and students, are not very successful in finding placements to gain practical experience. Even the traditional apprentice training in Europe which seems to be an ideal

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form of IWL at first glance, is facing the problem that the modern place of work is not necessarily a good place for learning.

IWL causes problems if:

- a work process does not allow interruption in a continuous sequence of procedures;
- a lot of cognitive knowledge is required to complete a task;
- a certain work pace is demanded which can only be achieved through training;
- human error can result in bodily harm or major damage to machinery and materials.

3. Organisational preconditions for IWL

What are the organisational measures that allow young people to participate in IWL?

This is less a change in the work organisation, but more a modification in the planning of education:

- The learning objective is less determined by a well designed and scheduled curriculum than by the actual business case or the production order. If a certain skill and knowledge are mastered, they can be ticked off the checklist of the respective professional qualification (down-under-curriculum).
- The training places i.e. the different in-company as well as outbound work places have to be chosen very cleverly.
- Those acting as multipliers have to be selected carefully, even if ideally every employee should be able to fulfil a training assignment ("the teaching and learning enterprise").
- Time and work pace play a major role.

The holistic learning within the work process is defined by a way of organising learning which is quite different from the traditional scholastic approach. Skills and each single step of a work procedure are no longer trained separately but in a context of productive work where their application and function are immediately evident. Managers therefore, have to develop a new understanding of how to plan training.

One of the preconditions for IWL is a certain attitude of the executives: This underlying attitude is described by the words "human resource management and development".

The process of training and continuing education cannot happen without management intervention. It has to be carefully planned and should include the learner in the entire pedagogic process. Both, the company and the employee have to continuously carry out the following four steps:

1. Realise the needs for qualification
2. Plan the measures for qualification
3. Execute the human resource development measures
4. Evaluate

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In this procedure the well-known human resource development instruments have to be systematically applied, i.e. development of standards along with job descriptions, systematic survey of training needs and needs for further education, personnel interviews, various forms of support and supervision measures as well as the regular evaluation of all these steps[3].

Excursion: Cognitive and practical intelligence

The current economy shows two extremes. In Europe, on the one hand, it has never been very easy to gather written and visual information. The increase in information should, therefore, result in an increase of knowledge.

On the other hand the working world has become more complex and less comprehensible. It is difficult for young people to take the first step into a work experience. In most cases it is not possible to carry out a job without cognitive knowledge. Up to now the remedy for this problem has been to teach theory first and to give practical training afterwards. But a work process cannot be experienced in a solely cognitive manner. The working situation has flavours: it may be hot or cold or boring or exciting. The environment is shaped by many things, objects and people, distances and relationships and so on. For learning within the work process new methods are needed. The evolution of this method provides an advantage for the market position of the European Economy.

4. Examples of the organisation of in-company IWL

4.1. IWL at the computer

If a task has to be carried out on a computer and if a proper learning environment has been arranged, this can provide an ideal integration of work and learning. The preconditions for the learner are only that s/he is able to read and to handle the necessary equipment and media.

Variations of computer based training (CBT) are learning by using CD-ROMs, the Internet and telework - respectively tele-learning.

This approach requires only the following organisational measures:

- provision of adequate hardware and software
- access to the relevant media
- motivation to learn by using a computer

4.2. Assignment-orientated learning

Every task given by a customer carries with it the chance for a learning process. Good clients are able to express their demands in such a way that the goal and the corresponding way is clear.

This way of education presents major advantages in its customer orientation, clearness, and the integration of education into an understandable work process[4]. This way of education can be carried out in five steps:

1. Listening to and watching a skilled and qualified employee and being encouraged to ask questions
2. Documentation and support material for a given assignment
3. Auxiliary tasks and preparatory operations as well-defined parts of a given task in the context of an overview of the entire process
4. Working together with an experienced operator and learning by example as well as by copying
5. Autonomous work and self-control[5]

Assignment-orientated learning does not cost managers much in terms of time, and is cheap, if certain organisational requirements are met and the method is professionally handled. However, incomplete and hardly understandable work assignments will result in failure.

It is often forgotten that not only the core work task has to be defined but also the requirements and conditions for reaching the target. If a specific training task is transferred to a specific skilled teaching person, feedback has to be demanded as a measure for quality control.

The necessary organisational measures are:

- to induce an assignment culture into the company, i.e. to know how to give and take on assignments
- to register the skills trained
- to qualify as many staff members as possible for transferring knowledge and skills and supervising trainees.

4.3. Carrying out work as project or group work and in partnership

These learning methods define a process that and the pedagogic and didactic implication of these ways of learning are well known and do not need further description.

Difficulties may arise in the personnel assignment planning, which should allow productive work as well as opening up training possibilities. It should take into account the various prerequisites, the capability of the trainee and must avoid boredom.

4.4. Temporary suspension of work for

- information about the next steps in the procedures
- instructional conversations
- discussions
- special tests
- training courses etc.

In order to increase the capacity of problem-solving, the above methods can be applied as a support. One has to attach importance to the continuing connection between the goal of specific work and the goal of learning.

4.5. Quality Circle (QC)

It is the idea of QCs to learn and reflect on ones' own position and work, as well as to learn to think about the interconnections in the company's work flow.

QCs are, therefore, important for any company irrespective of its size.

4.6. Inclusion of other places of learning

The training can be carried out in various places outside the company. Typical examples are:

- apprentice schools
- seminars
- trade fairs and exhibitions
- training in a co-operating company (training co-operation)

A close co-operation between teachers, trainers and those who hold the highest level of responsibility is necessary to ensure a successful and economic process of learning. In such way IWL is possible.

4.7. Swapping roles

The training managers, trainers and teachers and, of course, skilled workers within a company have to be able to alternate between the different roles of consultant, moderator, trainer or coach.

IWL requires a high degree of versatility and quick responses to the strengths and the weaknesses of the learner.

The organisation has to be set up to ensure that:

- the training managers are highly competent and qualified;
- those responsible for training are themselves continually trained;
- there is a good co-operation between the human resources managers and the training managers;
- the acquired skills are documented and registered and the achieved levels are clearly understandable.

Finally it should not be forgotten that even the trainer and the trainee may swap roles during the work process.

5. Conclusions

In future intellectual property will become increasingly important. But only the proper use of information makes it valuable, not just its possession. This ability of adequate use can be best maintained through IWL as it requires a combination of qualification and knowledge management. The employees should be empowered to participate in change management.

Discussion

MEGLIC : Maybe a provocative question : Would you say that the dual system in Austria is undergoing a crisis or not?

STEINRINGER : If you want to look at it this way, it is always in a crisis. The crisis is not related to the salary the youngsters are paid. The crisis lies in the working hours which need to change, e.g. in tourism.You cannot ask apprentices to stay until nine or ten o'clock in the evening. Or if you are a baker, you have to work during the night and not during the day. It's actually a political problem. The costs apprenticeship schemes incur in Austria is another matter. We found out, that, interestingly you do not make a profit on your apprentices during their apprenticeship, but after it. The first three years after apprenticeships have been completed are profitable for the training firms. Sometimes, if the apprentice is very good, you can get a good return during the third year of his or her apprenticeship, when for example the apprentice can run half of your small company. But this happens only if your order book is full - in a boom period and therefore it is a question of the economy itself. So there is a close relationship between the economy and in-company training.

VAIDEANU : I'm delighted to hear that you consider computers as really important tools in training. My first question is about computer literacy. How far do you go with this literacy? I mean initial training in using computers and at which level?

STEINRINGER : In Austria we are very aware that we are in competition with other countries. Almost all of our 'Hauptschulen', secondary schools are equipped with at least 386 or 486 level computers. Students learn to use programmes such as 'Winword' and in the higher classes 'Excel'. During apprenticeship there is sometimes the problem that the managers or employers think that computer records should not be touched by apprentices and so let them work on computers only after the apprenticeship has been completed, especially in finance and planning. But in other areas such as text processing they are quite involved, especially of course, in offices where general business management practices are being taught. They are well ahead in general but also some apprentices in the industrial trades learn drawing on the most modern CAD systems e.g. AUTOCAD

12 or 13. But there are no apprentice examinations which include the use of computers as many candidates are still only able to work with pencil and paper.

VAIDEANU : I have heard that in Austria 2/3 of the graduates go on to work in computerised environments. Is that right?

STEINRINGER : No, No. That's too high, but they are, we hope, at least able to use computers.

VAIDEANU : OK. But for example, I don't know one professor in an Austrian University who doesn't want his or her students to submit their papers in computerised form. Can you illustrate your studies on work organisation on the one hand and the actual work situation on the other? Which companies did you cover?

STEINRINGER : Mostly the small and very small companies, for example, plumbers. They begin their work in the morning by putting all the things they will need during the whole day into their car. It is very important to recognise early in the morning what to put into the car because if a plumber cannot proceed with his work at the site due to lack of parts or tools he has to drive back to the workshop, find the material and thus wastes valuable time. I know a number of companies that have a check list, for example, on the inside of the car doors. My institute carried out a survey which included the question 'How long do you teach your apprentice each day?' There were two lines in the resulting graph, one showing about fifteen minutes a day in the morning and in the evening and the second 'all the time'. If you are taught and you are learning all the time, then you have a good trainer or - as I call him - a mentor.

SLANDER : I'd like just to repeat the question which Mr Buck asked Mr. Kutscha. Could you 'recommend' a direction for the future development of the dual system? Perhaps more at a concept level?

STEINRINGER : I think the dual system has a great future because it's one of the cheapest alternatives. I think it's low-cost for the State and for the companies. But it is very difficult to transmit this to society at large. The Austrians think that if they have a doctorate or a title they belong to a higher species of mankind. To turn this attitude around you need to spend a lot of money on advertising. So I'm responsible for the Austrian slogan, you know 'Karriere mit Lehre' (career via apprenticeship). I have been running this campaign for six years and the reactions to it have been very, very interesting. I could tell you at length how people react when you suggest to them that they develop a career for themselves which starts with apprenticeship.

My second argument for the future of apprenticeships is my latest thesis. In the future we will be able to get a lot of information via the Internet. In this way, we will gain access to a lot of information very cheaply if we are cognitive, but the problem is to find training places where the young people can be kept out of trouble. This I think is a great problem. If you look at some more highly qualified jobs, for example, in the case of psychoanalysts you find that first they learn what they should heal in future. I think there are many examples we could find and I think the dual system has a great future, hopefully also in Austria.

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THE CO-OPERATION OF COMPANIES IN THE FRAMEWORK OF TRAINING AND LEARNING PARTNERSHIPS

Janja Meglic

Slovenia is in the process of introducing several innovations in the field of vocational education. The legal basis for this process is mostly contained in the Law on Vocational and Professional Education passed in 1996, as well as in the Law on Craft which established the elements of social partnership back in 1994.

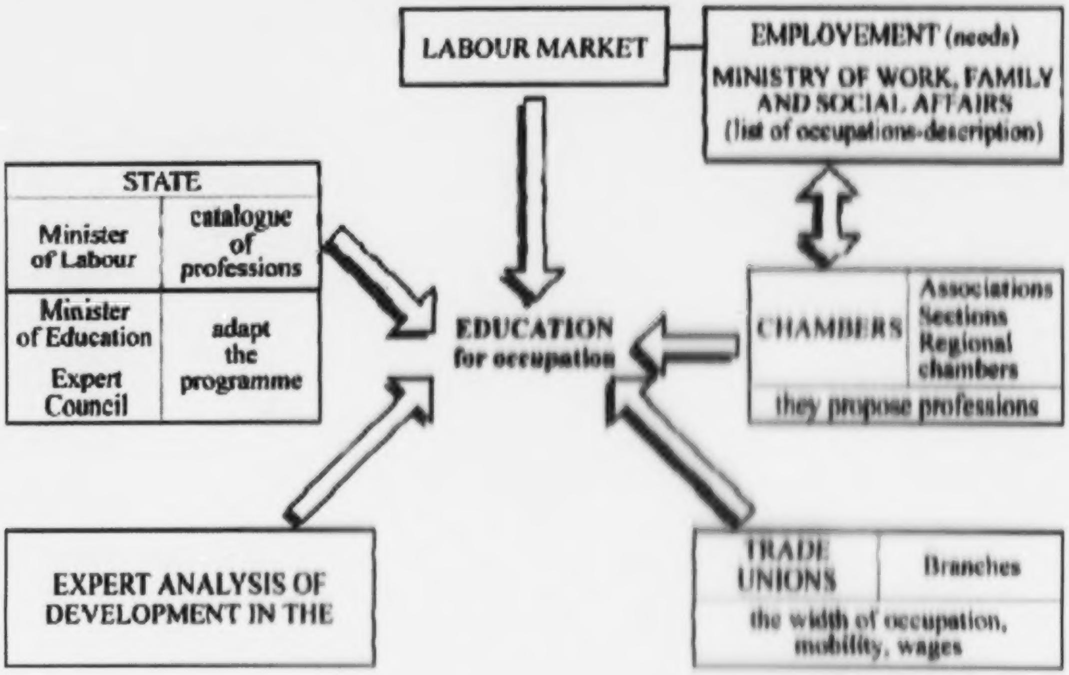
The present schooling system for vocational education can no longer remain as it is because it is not in line with the market economy. Up to now the schooling sector alone defined the training programmes. This resulted in giving priority to general education and theoretical teaching. These programmes were implemented to the detriment of professional qualifications and practical knowledge. In addition, the creation of the programmes and their implementation was a long and highly formalised process which prevented the real needs of the working sector to be taken into account. It also made it much more difficult to comply to the fast changes in the structure of work. Social partnership was not on the agenda.

The new legislation reflects the established goals for change and development of vocational education in Slovenia.

The goals for change and development of vocational education in Slovenia will be ensured by:

- the standard of general education on the European level, however not at the cost of professional qualification;
- the corresponding relationship between the range of vocational education and direct qualification for practical work;
- a preparation and acceptance mechanism for programmes which ensures their fast adaptation to the developments of the working world, i.e. social partnership;
- direct co-operation and participation of employers in performing vocational education.

SOCIAL ENVIRONMENT


LABOUR MARKET
EMPLOVEMENT (needs)
MINISTRY OF WORK, FAMILY AND SOCIAL AFFAIRS
(list of occupations-description)
STATE
Minister of Labour
catalogue of professions
Minister of Education
Expert Council
adapt the programme
EDUCATION for occupation
CHAMBERS
Associations
Sections
Regional chambers
they propose professions
EXPERT ANALYSIS OF DEVELOPMENT IN THE
TRADE UNIONS
Branches
the width of occupation, mobility, wages

Social partnership

The work side of the equation is gradually increasing its influence in the social partnership between the employers, employees and the state. The development of social partnership is needed when making decisions and developing concepts as well as in the division of responsibilities within the complete hierarchy of vocational education. The basic responsibilities linked to the development of education are achieved by the social partners when preparing and accepting the programmes in partner-organised bodies (e.g. Professional Council for Vocational and Professional Education). Each one of the partners also has its own innate competencies and responsibilities which are a condition for the further development of the dual system. As the whole new system is introduced in steps, these competencies and responsibilities are not yet fully performed.

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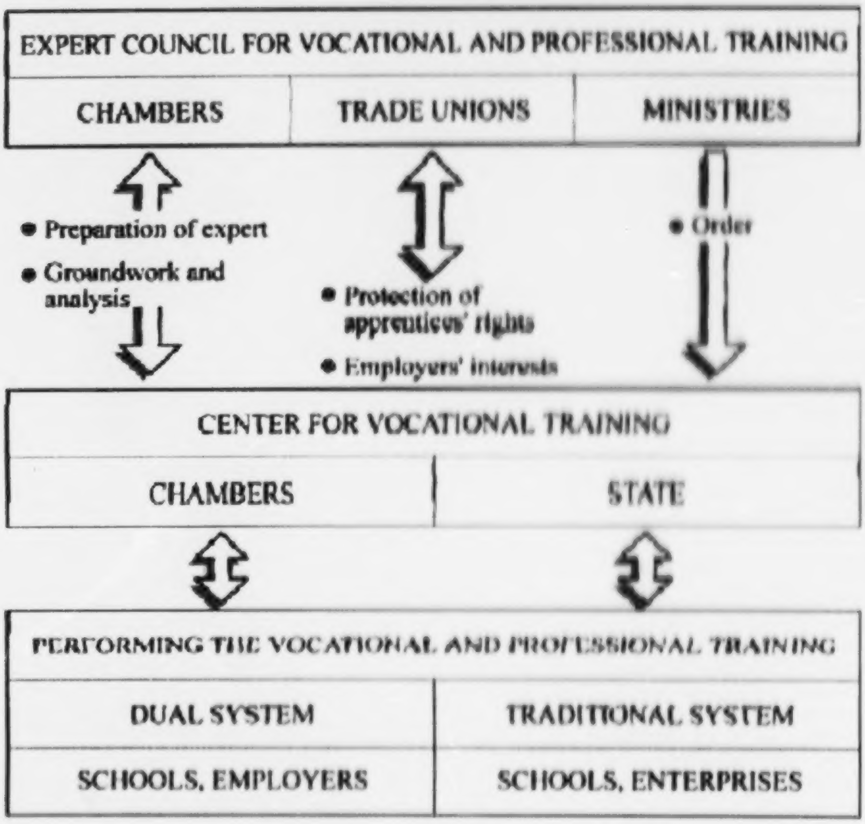
SOCIAL PARTNERSHIP


EXPERT COUNCIL FOR VOCATIONAL AND PROFESSIONAL TRAINING
CHAMBERS
TRADE UNIONS
MINISTRIES
• Preparation of expert
• Groundwork and analysis
• Protection of apprentices' rights
• Employers' interests
• Order
CENTER FOR VOCATIONAL TRAINING
CHAMBERS
STATE
PERFORMING THE VOCATIONAL AND PROFESSIONAL TRAINING
DUAL SYSTEM
TRADITIONAL SYSTEM
SCHOOLS, EMPLOYERS
SCHOOLS, ENTERPRISES

The employers will also have to upgrade their personnel to be able to achieve some key tasks:

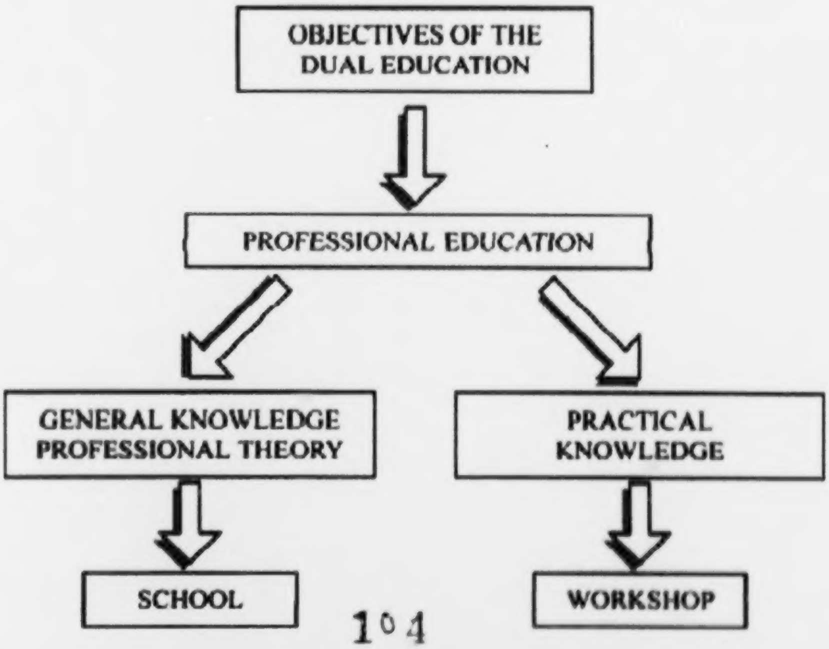
- development strategy for vocational education
- measures for professional counselling and guiding new personnel
- proposals for defining professions
- descriptions of professions
- definition of professional demands
- control and advice for employers when performing dual system education
- preparation and introduction of an examination system as well as its organisation
- implementation of intermediate and final exams (Gesellenprüfung)
- co-investing in the development of vocational education, above all on the level of inter-company training centres.

In addition the organisation of employers, currently the Chamber of Craft of Slovenia and Chamber of Economy of Slovenia:

- proposes the standards for practical knowledge which are tested in the final examinations as well as in the master's and supervisor's examinations;
- elects their members to the examination committee for lower and secondary vocational schools' final exams;
- carries out checks and keeps a register of training places (Lehrstelle) and signed learning contracts.

Are employers able to take on all the tasks and competencies of the social partnership and, if so, are they adequately trained to accomplish them?

Employers and their organisations - the Chamber of Craft of Slovenia and the Chamber of Economy of Slovenia - have been gradually preparing for a different system of vocational education since 1988 with the introduction of the so-called programmes, designed for craft and small businesses. They already contain some elements of the present dual system of vocational education. Above all, performing the greater part of practical training in the workshop was already emphasised and tested in the 3 year vocational education. But the description of the profession and the programme had no bearing on the official definition. There were over 3,500 apprentices, working for approximately 2,500 employers (members of the Chamber of Craft of Slovenia and to a lesser extent the Chamber of Economy of Slovenia) included in this process. Education was performed for 21 professions, predominant among them were car mechanic and joiner. Up-to-date information on such co-operation of employers and their non-formalised co-operation in the practical part of the final examination has shown that they want a stronger influence on the contents of the education which must be aligned to the changes within the market economy and to the changes in technology. Experience from the few years of these crafts programmes formed the basis for the system solutions which are being formally introduced with the dual system of vocational education.


OBJECTIVES OF THE DUAL EDUCATION
PROFESSIONAL EDUCATION
GENERAL KNOWLEDGE PROFESSIONAL THEORY
PRACTICAL KNOWLEDGE
SCHOOL
WORKSHOP

Throughout these years the Chambers have been training the employers to accept pupils and future apprentices. This has been happening by way of seminars of working pedagogic. This enables them to add theoretical knowledge to their rich practical skills and experience. The seminars offer the following:

- psychological aspects of the work with apprentices
- basic didactics
- special didactics
- practical training in workshops and enterprises
- laws and regulations.

Within the last topics: laws and regulations - participants become well-versed in the elements of social partnership, the key role of employers in this matter, legal regulations and acts and dealing with the dual education system. They also learn which type of personnel and equipment are required in order to be able to co-operate in the dual education system as well as obtaining some practical information on how to sign apprenticeship contracts. About 4,500 employers have participated in these seminars over 7 or 8 years. These seminars have helped to overcome the thirty year gap in the tradition of training young people in the workshop. This gap came about through the abolition of Masters' Exams in 1983. Already then working pedagogic had been a subject in the Masters' Exams. The Law on Craft (1994) laid the legal basis for reintroducing the Masters' Exam and the Law on Vocational and Professional Education the one for supervising people and managers. The procedure for registration is being performed and is practically in the last phase of implementation. All three kinds of exams have 4 parts, according to their contents and range, the working pedagogic being the same for all.

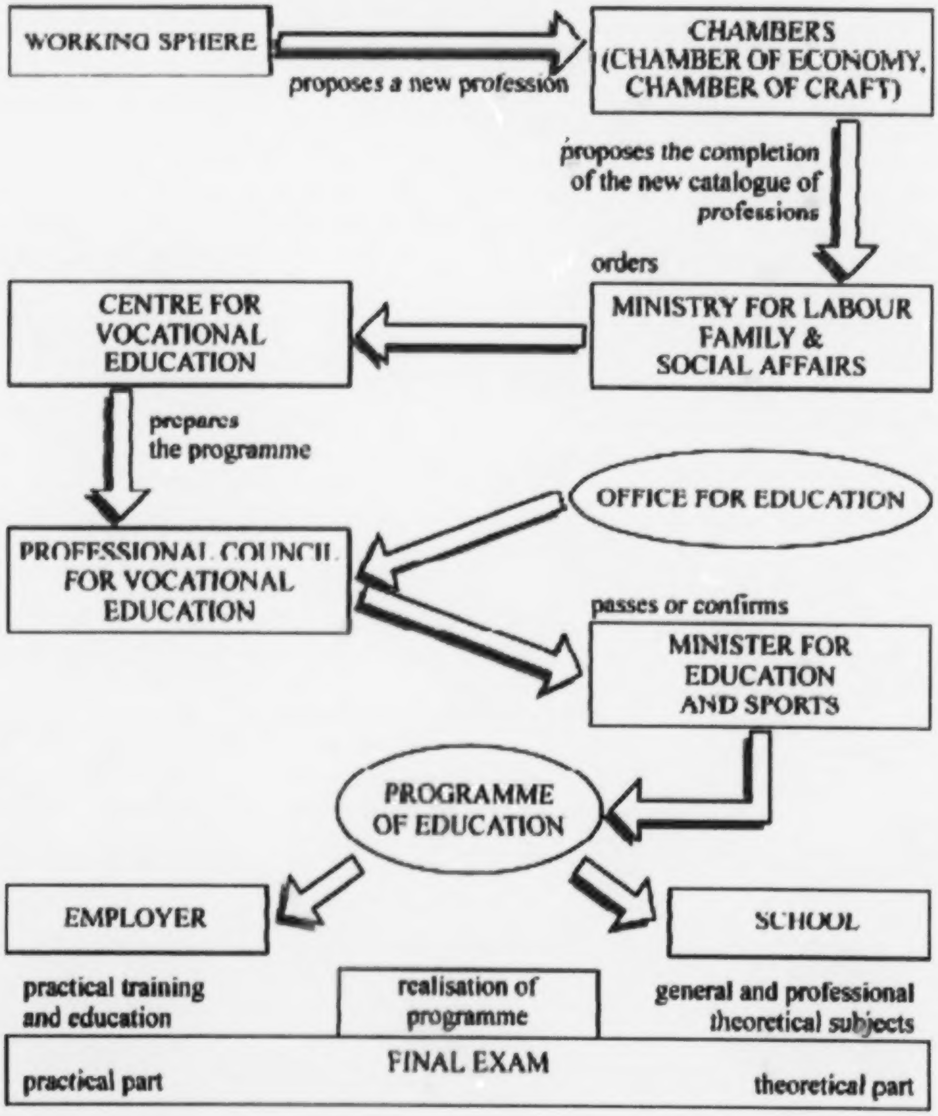
The dual system

The pilot introduction of the dual system in the 1997/98 school year has, so far, shown that employers still know too little about social partnership and the changes in the VET system.

For this reason both Chambers take a lot of effort in preparing written documents for employers. In addition they publish information on a monthly basis as well as in their own papers (e.g. the OBRTNIK magazine). At the International Craft Fair the Chamber of Craft of Slovenia also presents those professions which do not attract enough apprentices in spite of having good prospects. In the last two years this fair was visited by more than 27,000 elementary school pupils, who are about to make an important decision in life, i.e. which vocation to choose. For in-depth information the Chamber of Craft of Slovenia has prepared a CD-ROM on the introduction of the dual system of vocational education giving training locations and all necessary information. It will be published every year.

In the process of practical education only those workshops which fulfil the personnel and equipment requirements (appropriate professional education and knowledge in working pedagogic or Master's or Supervisor's Exam) can participate. Equipment, devices and machinery have to ensure that basic knowledge can be gained for professional qualification. Both Chambers are authorised to certify that employers fulfil these conditions. The so-called verifications have been performed for several years. Employers in Slovenia are technologically well-equipped and above all, in fast-growing activities, able to rapidly follow developments in technology. But the diversity in the equipment and activities has signalled a need for setting-up training centres. These centres will be set-up and managed by the social partners in the framework of existing schools which will be upgraded in terms of equipment and personnel. This will ensure that apprentices gain the necessary practical knowledge, above all in the field of technology and are trained homogeneously. In this way more employers will be eligible to perform practical training in the dual system and will meet developments in technology. The emerging needs on the labour market will have to be satisfied by employers with both the social partners and competent bodies.

THE DUAL SYSTEM


WORKING SPHERE
proposes a new profession
CHAMBERS (CHAMBER OF ECONOMY, CHAMBER OF CRAFT)
proposes the completion of the new catalogue of professions
orders
MINISTRY FOR LABOUR FAMILY & SOCIAL AFFAIRS
CENTRE FOR VOCATIONAL EDUCATION
prepares the programme
OFFICE FOR EDUCATION
PROFESSIONAL COUNCIL FOR VOCATIONAL EDUCATION
passes or confirms
MINISTER FOR EDUCATION AND SPORTS
PROGRAMME OF EDUCATION
EMPLOYER
SCHOOL
practical training and education
realisation of programme
general and professional theoretical subjects
FINAL EXAM
practical part
theoretical part

Employers are ready to take up their role in the social partnership within the narrow requests dictated by the introduction of the dual system. However, they are not prepared to take on the wider responsibilities involved in social partnership. Here lies one of the Chambers' priorities. The employers, for their part, expect stronger support from the state, at least in the first years of the new system. The Chambers lobby the state to provide financial incentives to employers and some professional support when transferring numerous competencies and obligations to industry in the field of vocational education.

Discussion

MUSTAFAI :	As I understand it, you are trying to introduce a dual system, or pilot a dual system in Slovenia and as far as I know the dual system is based on a highly developed job market, strict regulations, strict evaluation procedures, strict and clearly defined standards. What is the situation in Slovenia? Have you already fulfilled these prerequisites for a dual system? Or are you trying to develop the prerequisites simultaneously with the system?
MEGLIC :	I'm glad that you asked this question. The answer is that we are now ready for the dual system which will run alongside the school centred system. On the scholastic side we will have students at school, including professional schools and on our side we will have apprentices. The programmes, the skills and the categories will be the same and the knowledge we want them to acquire will be the same. Only the way in which knowledge is acquired will be different. In some cases, students will only be in schools and in others in a set-up provided by the co-operation between schools and companies. The problem of the high level of technology and the ever changing demands of vocational training and the changes in the work force are forcing us and the Chambers to provide training places which can give enough practical and theoretical knowledge to apprentices. This could be a problem as some of our members, the employers, are not sufficiently well equipped for changes in production. But schools have the same problem. As we saw in the Chamber of Crafts there may be some problems, but the Centre of Professional Education and the other social partners are now preparing training centres as we know them from Germany. The practical hi-tech knowledge lacking in the other parts of the system are to be provided by those centres. Slovenia will also adopt this solution.
KUTSCHA :	Who will be allowed to train apprentices and how will you organise examinations in your dual system?
MEGLIC :	Anybody who wants to train apprentices has to be skilled i.e. she or he has to have an adequate professional education in their field. Also the company chosen has to respond adequately to the exactly defined learning profile and the learning or vocation requirements. If the company owner doesn't have these qualifications, then s/he has to have at least one employee who does. There are also some

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requirements concerning theoretical, pedagogic and methodological knowledge. That's why the Chambers started this co-operation with other institutions who are organising seminars for teaching these trainers. So the prerequisites for the trainers are defined in the 'Crafts Law'. The second part of your question was 'how to organise examinations'. Do we have examination boards?' Speaking for my Chamber, it has a board for education. It's a board of employers or members and in the future it will create the education policy. They're also at present solving the day-to-day requirements. As a social partner, we are included on all boards below national level. This is known as the Expert Council for Vocational and Professional Training. It's an important Council. is written in the 'Crafts Law', we also plan to include teachers from vocational schools on the boards for final examinations as well as for intermediate examinations. So a basis and some rules have already been set up. We just haven't implemented the procedures as fast as we would have liked, especially as now we already have third grade apprentices in the schools.

KUTSCHA : And are there teachers on the examination boards?

MEGLIC : Yes, the teachers will be included on these examination boards, but maybe I didn't stress enough the important role of the Centre of Professional Education in Slovenia. Together with the other Social Partners, the centre is preparing the subjects for the exams and the teachers have an important role in drawing up the school syllabus for the apprentices. But first comes the proposal from the Chambers and this is in the form of a request to the Ministry of Labour and Social Affairs to issue the definition of certain profiles. The teachers are also involved in this process.

BARTAK : Mr Steinringer said that he believes in a better future or good future for the dual system. You've just started a dual system. Another reason for this assessment is that the system is cheap - cheap for the State and cheap for enterprises. Your Chamber represents the enterprises. Where did you find the money for this pilot experiment with 3,500 participants and how do you intend to cover all the expenses for its full implementation?

CHAIRMAN : Sorry, I have just found out that Mr Kozek has had his hand up twice and I didn't see it.

KOZEK : One remark and a question of a more general nature. I would like to come back to the questions in the titles of these sessions. In other words how to narrow the gap between learning and work. For me and I believe from the stand point of most of the so called countries in transition, this is mostly a question of motivation, about motivating the different actors involved in that process and not of a new model mix. So my general question is : what exactly is the basis of this motivation? Is it economic? Or maybe more formal and imposed by legal regulations, say nation-wide standards or external examinations? Or maybe it is purely personal, being a consequence of personal interest and enthusiasm. I can say that in my country the latter is still mostly the case. And my second question is 'Who is, in fact, the promoter of these changes?' Can we distinguish between partners that are proactive and those who are reactive in these processes?

MEGLIC : The reason why we went for this dual system was also economic. It really was because pupils came from those 'school centred' systems with a lack of practical knowledge and it was thought too expensive to train them in the workplace after finishing school. So this is the (economic) reason why we have opted for a dual system to teach them in a real situation with real daily work but using methods appropriate for them. There are also some personal interests. Maybe the employers also wanted to renew this system in their own fashion. They are interested in creating programmes and professional profiles.

Who are the promoters of these changes? I must say this social partnership system is functioning in Slovenia and all the partners are promoters. Maybe parts of the Trade Unions have not yet started to function properly or as could be wished. But at the moment the Social Partners and the Chambers helped by other partners e.g. the Ministry of Education are promoters and so is CPI - the Centre for Vocational Education. So, the social partners are promoters. We expect more from the Unions, but understandably their role is a little bit different. As to the first question. The dual system, as we in the Chamber of Crafts and as a Social Partner see it, is very expensive. It's cheaper for the State, but, Mr Steinringer, I must say that it's very expensive for our members. And that's the only reason why recently we haven't had an increase in training places. The reason is that the State, until now, has not provided any support and we are expecting support from the government or from other sponsors. We are, however, working on some very concrete proposals as to how, where and when to support our members.

Mr. Steinringer, I think for those employers who take on apprentices at the start of the dual system, the system will not be cheap. But maybe in time, they will discover that in reality, they are training their own employees. If they train them well, three years later they will have very good, skilled employees whose work yields a nice profit.

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Reference:

1. White Paper on Upbringing and Education in the Republic of Slovenia
2. School Legislation, Ministry for Education and Sport, April 1996
3. Law on Craft with Commentaries, Gospodarski vestnik, Ljubljana 1995
4. Vocational Education for Craft, Chamber of Craft of Slovenia, September 1997
5. Zdenko Medveš, Documents on the Meeting of Pedagogical Workers, March 1997, Portoroz

WHAT TO LEARN IN COMPANIES: HOW TO PRODUCE GOODS OR HOW TO SATISFY CLIENTS?

Edwin G. Nelson

Introduction

The question that I have been asked to discuss is inspired by the process of transition from command economies towards open market economies which is currently testing flexibility and innovation in Central and Eastern European countries. It is a question concerning the vocational education and training (VET) response to employers' and employees' needs in those countries. It is really of comparable importance in Western Europe too. Transition poses important challenges for VET providers as they overcome natural conservatism and adapt to a new environment with new needs for the preparation of young people and the retraining of adults so that they can make their own ways in the world of work. Because of transition, the traditional orientation of VET towards production-related processes and occupational competencies (which was a feature of the Tayloristic world of big enterprises seeking the economies of scale in mass production using labour-dependent technologies to supply mass markets) is being revised.

To be relevant, any discussion of a question such as this should be conducted first with some reference to the needs of the client enterprises and individuals for whom VET curricula may be designed. Since one of the major developments in transition economies is the growth of dynamic SME sectors of industry, this is the sector to which references will be made.

Case 1.

Recent research in Britain[3] has examined the growth rates and characteristic features of the top 10% of fast-growing companies with turnovers of between £5 million and £100 million. 'Fast growth' is a relative concept and in this group the top 10% was found to be increasing their turnovers by more than 30% per annum over a period of four years. All companies are unique and in practice adopt idiosyncratic strategies for growth, which often makes it difficult to isolate common factors. However, the owners and managers explained the secret of their success by claiming they understood their clients better than their competitors did. This, it seemed, was more important to them than other factors such as price or innovation.

Thus, in Case 1, we learn from the employers, who are beneficiaries of VET, that in the market economy, fast growth is associated with satisfying client needs better than competitors. This is not a new discovery, but it does support the philosophies and models used by training and development practitioners[4] who have long claimed that they can

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[3] Storey D. (1997), The Ten Percenters: Fast Growing SMEs in Great Britain. Second report. Deloitte & Touche, 303 5040.

[4] Example, Hall D. (1995), Hallmarks.

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improve business performance with programmes designed to raise the level of a company's client-orientation. Nor is the principle confined to SMEs. It is equally applicable, and applied, by large enterprises who can be seen to become ever more sophisticated in their methods of defining their target client groups and identifying their clients' buying preferences. The same principle applies to micro enterprises that depend on the continuation of good relationships with small numbers of clients.

Case 2.

Shami Ahmed is now 34 years old and the founder of a £50 million jeans company which is the only British company competing in the top ten with international brands such as Levi and Wrangler. He started the company when he was 16 years old, the son of an immigrant family from Pakistan, and he built it up himself by buying and reselling jeans manufactured by his father. In an interview conducted by a Financial Times reporter[5] *he makes it clear that the critical factors in his early personal development were*

- *He first acquired his confidence by being able to observe another enterprise, in this case his father's. (Ergo, relevance of work placement and work experience)*
- *He learned about clients by selling to them*
- *He learned about jeans by competing with the strengths and weaknesses of other brands in the marketplace and learning about clients' preferences..*
- *Above all, he learned by trying to make things happen for himself.*[6]

Shami's father was a first class producer of jeans, but he was not the one who built up the business. That was Shami, who was much more market and client orientated than his father. Together, father and son complemented each other with their production and client orientations, and in so doing created a competitive, successful enterprise.

Potential entrepreneurs are still a minority market for VET, but it is growing. In the UK, which is about average in the European Union as regards the SME sector, one in nine persons are self employed. With transition and changing patterns of employment, it is probable that in the 21st. century more than this will at some time in their working lives be self employed, even if only for relatively short periods. On current statistics, the greater number of these persons will be those who have acquired skills and qualifications in occupational crafts, though not all of them have the ability to learn as Shami did, purely from experience. The greater proportion of them will need the assistance and coaching that can be provided by VET. Shami's case also illustrates the experiential (learning-by-doing) process which, for many, is a preferred learning style.

An even bigger market for VET is the population of workers who will be employed in small, dynamic enterprises, contributing to their growth and, incidentally, to the preservation of their own jobs.

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[5] The Management Interview. Financial Times, 11.9.97.

[6] There are some messages in this short case about the curriculum experiences and opportunities that should be provided in VET programmes, particularly as regards the opportunity to learn by observation and by experience. There are many ways in which such opportunities can be provided, including work placements and college companies directed and managed by groups of students.

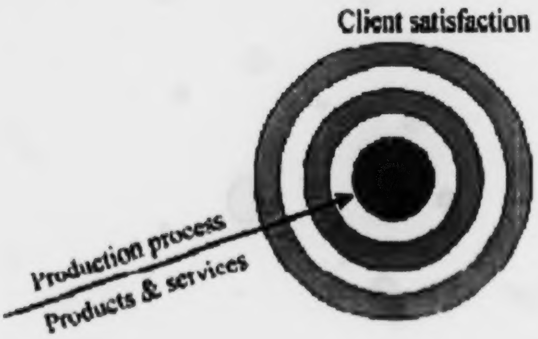
The general argument for client-orientated VET

In the western countries transition has been largely influenced by the invention of new materials for use in manufacturing of all kinds and by a technological revolution in information technology and production control systems. Machines perform many of the functions that human beings used to do, people are employed more for their human qualities, and products and services are differentiated for small niche markets. In these markets, client groups are educated and discriminating about service and quality, and enterprises are competitive and offer their clients more choice.

In some of these countries transition has been accompanied by the disappearance of former institutions and new VET institutions have been created, as in the UK where, because of the lack of demand for apprenticeships in traditional industrial crafts, the Industry Training Boards have been closed and replaced by Training and Enterprise Councils (TECs). New institutions and new problems have resulted in new forms of collaboration and a shared responsibility between employers and VET providers, which has erased some of the old divisions between educational institutions and work organisations. Now both are increasingly regarded as parts of a coherent vocational learning environment. Thus enriched, the environment offers the possibility of new opportunities and choices for VET objectives and curriculum development, a challenge to which VET educators and trainers have responded with a variety of innovations.

In central and eastern European countries, after the abandonment of the communist model of enterprise in 1989, transition took on a different meaning from that in western countries. It featured a significant political dimension and a special emphasis on the adoption of the principles of the 'market economy'; and is predominantly concerned with changing from command (production-orientated) economies towards market-economies There are, nevertheless, many parallels and features in common with transition experienced in western European countries - for example, the down-sizing of large enterprises, rising unemployment, dependence on growth in the SME sector and an even more dramatic change of emphasis from production -orientated towards client-oriented activities.

These changes in the world of work are leading towards a client-orientated VET, which is evident in the widespread introduction of training in client care and ways of assuring client satisfaction. In sales and marketing occupations the relevance of this is self-evident. In production-related occupations it becomes evident in a greater concern for quality, defect rates and the 'fitness-for-purpose' of goods produced. In ancillary operations, such as reception, secretarial services, enquiries, and delivery, client care rates very highly and is linked with concern for company image and public relations. The European quality assurance standard, ISO 9000, for example, can be regarded as a marketing device designed to assure clients that enterprises are competent to satisfy their quality needs. Some new approaches to management, such as 'total quality management' combine the importance of production with the importance of client satisfaction in a single management philosophy.



SMEs - the new target for client orientated VET

One of the effects of transition is that SME sectors are growing and contributing more to gross national product (GNP) and to the creation of new jobs. In most countries large firms are now down-sizing and only the SME sector is a net creator of new jobs. SME sectors are more developed in western countries but those in central and eastern European countries are on a path of convergence with them. The UK represents an average profile for western countries where 11% of the active population is self employed. Ninety per cent of the 3.5 million SMEs are smaller than 20 persons and their owner managers must combine production know-how with client satisfaction know-how.

It can be seen that the SME sector is a large market for VET, with a lot of growth potential especially in central and eastern European countries, and it has some different characteristics from the large firms sector. In SMEs:

- The employees are a smaller inter-dependent team.
- Each member of the team is closer to the finished products and services and to clients.
- Production employees can be more aware of the ways in which they can affect client satisfaction.

SMEs can provide VET students and young workers with a more holistic view of enterprise, combining production and client-orientated work organisation. In this respect they provide opportunities for work placements and work experience that are more client -oriented than can sometimes be found in larger organisations.

People who create and manage SMEs (Entrepreneurs)

In developed countries, most of the people who start and run SMEs have not been trained as managers nor as entrepreneurs. Usually they are persons who have a craft which can be sold to others or they have knowledge of a product for which there might be a demand. Their success in their business depends on them being able to identify potential clients and sell to them, but they are trained neither in marketing nor in selling. Many are likely to be people who have attended courses in VET colleges where their course will have consisted mainly of occupational skills training for the construction industry, catering, hair dressing, vehicle maintenance and other services. Some will have trained in

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occupations for which there is no alternative labour market demand, such as factory assembly workers or coal miners.

Many of these people will be attempting to start their own businesses because they have become unemployed from large firms that are in the process of down-sizing. Few of these people will have had any previous contact with the clients who purchased their employers' products and services but now, as the new starters of small enterprises, they will need to be able to appreciate the importance of client care and assure client satisfaction. Others start businesses because they have the necessary technical knowledge for producing goods or services, plus the motivation to attempt to start and run their own enterprise. In the UK, in the 1980s when unemployment was running at an exceptionally high level, these new starters in business were responsible for increasing the size of the SME sector from about 2 million to more than 3 million enterprises. Their survival rates, however, were variable and one of their main training and development needs was judged to be in finding and keeping clients.

The uncertainties in the labour market and opportunities for small business enterprise continue to attract large numbers of new small business starters. They can be greatly assisted in making realistic decisions about their entry into private enterprise if they have received some client-orientated training before starting their business, and one of the most appropriate ways is to provide some enterprise and client orientation as an element in VET programmes.

People who work in SMEs

People who work in SMEs are members of a much smaller organisational team or family than they would be if employed in a big enterprise. Sometimes the most junior or newest employee is the last to touch a product before it is delivered to a client, and may have an everlasting influence on that client's opinion of the owner manager, his enterprise and the quality of its products.

Case 3.

The following scene was witnessed at 9 am one morning when a visitor arrived at a small metal fabricating enterprise, ACE Engineering[7]*, employing 8 people in a nursery factory unit. The owner of the enterprise was not present, having gone to see a prospective client and, whilst waiting for him to return, the visitor noted the following points:*

At 9.30 a.m. a number of people were wandering about but no one seemed to have settled into any kind of work routine and no one seemed to be in charge. One worker began to instruct a younger one to drill some holes in a small metal box unit. The instructions were poorly expressed and the younger man didn't understand what he had to do. The older one became frustrated and scathing. He then wandered off. After a short while he came back and the younger one asked him where the template was. He couldn't tell him. Eventually the younger man found the template himself and then brought a sack full of fragile metal box units to the drill and emptied them onto the floor.

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[7] The case is real but the company name is not.

The visitor learned that the drilling job was subcontracted from a larger enterprise assembling washing machines. If this job was completed well then there was the chance of further work.

This case is an example of poor management and team work and within six months of this incident this enterprise went out of business because of lack of work, and the employees were then unemployed. The owner manager was clearly at fault in not building a more caring team, but his failings (and his employees' jobs) might have been saved if the employees had been in the least client-oriented and cared for the state in which they sent back their client's components. This kind of incident is one that can be anticipated and catered for in VET curricula, work placements and work experience.

Rising to the challenge

The need for VET responses to changing circumstances in industry and employment is already widely recognised by employers, by government policy makers and by VET providers and in some cases radical changes have taken place in the institutional environment for VET.[8] In Central and Eastern Europe transition started later and from a different starting position but there are signs of it converging on the same course that it has followed in western countries. It is not surprising therefore to find familiar statements of policy and enabling legislation for VET. One such example is to be found in the Slovenian Government's White Paper on education, which clearly demonstrates policy makers' awareness of the main challenges in the VET environment.

Quotes from White Paper

"...a uniform model for all occupational profiles of the same type....does not meet the requirements of the work process nor does it fulfil the various interests and capacities of small businesses ready to invest in education or carry it out." pp. 212-213.

"...it is becoming more and more important to look for compatibility between the system of qualifications and preparation for concrete vocational education programmes..." p. 214

"...training granting a vocational qualification ...can be carried in companies or institutions accredited for such activities..." p.221

"...the school and the company (craftsman, institution) at which the practical training is carried out are responsible ..." p.222

However, the translation of White Paper policies into action and curriculum innovations is not an automatic process. Policy is inevitably attenuated as it passes downwards through bureaucratic hierarchies and runs into the problems of resource allocation and resistance born of natural conservatism. Besides, teachers and trainers are rarely excited by new central government policy. Theirs' is usually a more pragmatic perspective influenced by their own perceptions, formed through their own contact with the world of work and their understanding of student learning needs, although sometimes perceptions need to be adjusted to circumstances that have changed since last perceived!

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[8] For example the National Council for Vocational Qualifications (NCVQ) in the UK.

Conclusion

It is clear, then, that at the levels of the individual person and the enterprise there is a practical utility in being client -orientated, and this can be learned through work placements and work experience in companies. VET can facilitate the process of learning to be client orientated through the integration of work and learning (IWL). This integration has been developing for some years, partly because economic transition and industrial restructuring has changed the nature of work in many industries and created a need for employers and VET providers to agree curriculum responses. The impact is felt in western as well as in central and eastern European countries.

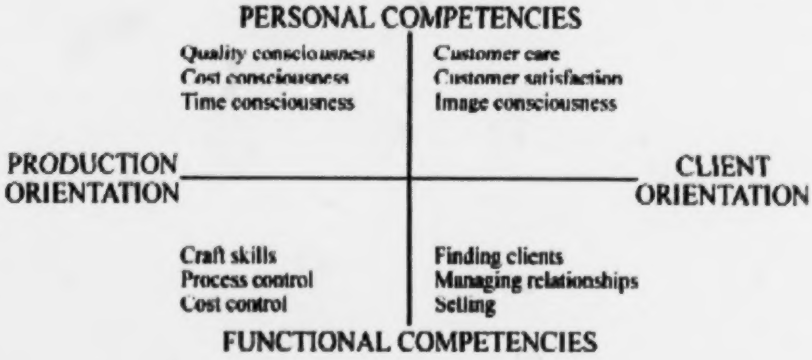
IWL is a response to the demands of employers for more VET programmes to prepare students for their entry into the world of work. The need has become more acute because of the quickening pace of economic, industrial and, in some cases, political change. The advent of new materials and technologies has been accompanied by lighter political constraints, de-regulation, more open markets, new opportunities and more competition for markets and clients. Traditional industries have declined, enterprises have become smaller and the small and medium enterprise (SME) sector has replaced the large firms sector as the sector for the creation of new jobs. Most new jobs are in the service sector of industry. Industrial restructuring has affected traditional production processes and work. *In both western and eastern European countries many workers are seeing traditional craft skills become redundant. In the industrialised countries, more persons are becoming self-employed or are experiencing self-employment at some stage in their working lives.*

In a competitive market economy, enterprises of all sizes, even if they produce technically perfect products, cannot continue to exist without offering and providing a high degree of client care and client satisfaction. This is not the responsibility only of marketing personnel and salesmen. Even production workers too can influence client satisfaction and need training in client care. In small enterprises, especially, there is a need for employees to be client -orientated even if their nominal role is a production one.

Within the context of an 'orientation curriculum'; client orientation can be presented as a complement to production orientation in respect of both functional competencies (technical skills) and personal competencies (soft skills, awareness and attitudes), as shown in Figure 2.

Figure 2

An 'orientation curriculum' for work placements and early work experience


PERSONAL COMPETENCIES
Quality consciousness
Cost consciousness
Time consciousness
Customer care
Customer satisfaction
Image consciousness
PRODUCTION ORIENTATION
CLIENT ORIENTATION
Craft skills
Process control
Cost control
Finding clients
Managing relationships
Selling
FUNCTIONAL COMPETENCIES

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Stimulating student interest in questions of client care and client satisfaction

VET has a dual role; one (vocational) is to prepare students for occupation in a working environment and the other (educational) is to stimulate the interest of their students in a wider range of topics and issues in the working environment. For some, the Socratic method of cultivating curiosity with questions is still one of the most effective educational techniques. In the context of this paper, for example, the question "How do companies survive in their environment?" will inevitably lead to a recognition of the importance of client satisfaction.

In the Socratic spirit, some other questions that students can fruitfully pursue in work placement or during early work experience are as follows:

- Why do companies exist?
- Why do they produce what they do?
- How is the volume of production decided?
- Who are the company's clients?
- How does the company get information about clients' needs?
- How are products sold?
- How does the company know that clients are satisfied with products and services?
- How are marketing people different from production people?

Other implications of 'client-orientated VET'

Many VET institutions themselves are providers of 'products' in an environment in which they must compete for students. They are not therefore exempt from the need to be client - orientated. In educating and training students and meeting the needs of employers they should demonstrate their own concern in being client-orientated. Already there is a reconsideration of conventional supply-led approaches to the design and delivery of VET programmes which, in the past, have featured subject-led curricula, time-tables designed for the convenience of teachers, and an emphasis on input-related examinations of learning achievements. New approaches are now emphasising competency assessment systems, experienced-based learning programmes and evaluations of learning outcomes. VET staff are becoming more client conscious and VET programmes are becoming more flexible and more student- or client-centred.

Discussion

KUTSCHA : Edwin, you have a very optimistic view of small businesses. According to my own experience, there are a lot of small businesses which are very conservative and my questions are: 'Which exactly are the learning places, locations where young people can learn to become employees able to function in their role ?. Do only small businesses provide such a location or are there schools for example ? Are there other fields and how are they combined, or better, how should they be combined according to your view of market orientation ?'

NELSON : Well, you know you have talked this morning about the dual system in Germany and about the systems in other countries. In Britain we're in the chaotic situation of not really having a system. The Government that we had during the 1980's set about creating a market for training and education, particularly vocational training, because the transition of our economy had undermined the traditional apprenticeship schemes and that type of training. Then, once those old systems were abandoned and the Government took initiatives to try to create a market and enable private trainers in many cases to offer new approaches to training for employers and employees, we got quite a diverse response. So now we have a number of ways in which enterprises of all sizes can become involved in vocational education. We have a system which is administered by our Training and Enterprise Councils, which uses small private training companies or small units in large companies. They are given money out of the Government budget to place young people in companies for their training. If you take a region like mine for example, in the North East of England, which used to be heavily industrialised with ship builders and steel and iron and coal which have all disappeared and now only has SME's, here the only place where you can provide work experience is in an SME. So the training organisations have to find ways of persuading companies to take on a trainee, to provide that kind of training. I must say that quite often it's a struggle to get the employer to take the attempt seriously, but on the whole they do take it seriously. On another level, for example my university, my business school, has a system of training companies where a company is given a grant and a young person at a much higher level of education and training is given an allowance. Usually they're graduates and they are placed in the organisation as a learner for a period of twelve months or even more and the general idea is that the graduate should attempt to bring to that organisation, that small organisation, something that the employer doesn't yet have. So it's a university education looking at problems within that small company and the young person, at the same time of course, is learning everything there is to know about that company. Quite often they create a role for themselves in it too. And between these two kinds of schemes that I've just mentioned there are others. But there isn't one answer to your question. There are a number of ways in which this type of integration is achieved.

GROOTINGS : I would also like to come back to your comparison of small enterprises and big factories. You were, I think, arguing that small enterprises have higher learning potential than factories. I don't disagree with that statement. I think every work organisation has learning potential, but the learning potential is different. You need adapted forms of organisation to make this learning potential real. I think even the Fordist/Marxist prediction factory had learning potential, if you allowed people to go from one narrow job to another. And sometimes that was the way people learnt and how people made careers in those types of factories. I think the main challenge or one of the challenges we are facing now is that work in big factories has become so complex, or individual work places have become so complex that they no longer offer realistic learning potential. So we have to organise it in a different way. That's one of the questions we should discuss in more depth because the economy is not only comprised of small and medium sized enterprises. The majority of activities is still in the big factories, with huge complex production systems and people also have to learn how to work in those big organisations.

NELSON : I won't argue with you, Peter, about that. I mean I can agree with a great deal of what you've said and what I would say is that the SME offers a different kind of experience. If you think of it in terms of space, so to speak, an individual in a small company with five, ten, twenty people can see the boundaries of that space much more easily than a person in a very large organisation. To get around the departments of a large organisation and learn about them in the way you were describing is often done in management training where a company has taken on a person with the objective to plan a career for them in that organisation. That takes time, perhaps two years or something like that. Quite often the work placements that we're able to offer young people last only for a few weeks. So the small organisation can offer a more visible kind of learning experience in that way. But also regarding our modern ideas of what a young person needs to know and needs to be able to do, which is taking charge of their own learning experience, the SME's offer quite a good opportunity for them to learn to do that or at least to observe others doing it.

In an SME you can learn to be enterprising and you can observe others being enterprising. That is important nowadays when jobs are becoming more transient. In many cases people have to change their career path many times during their life time - sometimes quite radically. They have to find work for themselves, sometimes have to create work for themselves. In our population at the moment about one in nine persons is self-employed. We've got three and a half million people who are self-employed. All of them have to know about small business, know how to be enterprising. And the vocational education and training system owes it to young people, to prepare them for that kind of existence in the future.

CHAIRMAN : I think that was an important last sentence. Almost everywhere vocational educational and training systems lack exactly this ability to encourage young people to set up their own businesses.

PART IV

DIDACTIC AND METHODICAL IMPLICATIONS OF THE INTEGRATION OF WORK AND LEARNING

Learning Skills or Problem-solving : New Approaches in Curriculum Development
Oriol Homs

The Change from Instruction-led to Experience-led VET in Educational Institutions
Gerhard Herz

Development of Teachers and Trainers for Integration of Work and Learning
David Oldroyd

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LEARNING SKILLS OR PROBLEM-SOLVING : NEW APPROACHES IN CURRICULUM DEVELOPMENT*

Oriol Homs

Introduction

The changes taking place in production and organisation call for an in-depth review of the qualifications of a large part of the company workforce. It is not just a matter of updating skills and knowledge, but also of professional behaviour. In this setting, the call for competencies seems to be a mobilising slogan.

Innovation and quality strategies require that individuals mobilise not only practised professional skills, but also some human abilities such as intelligence, innovation, involvement, a sense of responsibility, communication, and above all action and problem-solving abilities. These changes are as evident in the services sector as they are in manufacturing.

Therefore, and in direct contrast to the Taylorist model of the past, those companies requiring such competencies must learn to seek them out and to recognise them explicitly.

The social construction of qualifications has ended up in systems tying together education/diploma/post-classification/salary, and the rigidity of this system is no longer suited to the flexibility and competitiveness required by businesses. The introduction of the competence concept allows us to view qualifications in a new light.

In order to adapt to market changes (a defensive strategy) or to anticipate them, companies must be able to permanently reconsider the competencies they need. Thus, references to position or employment are replaced by the softer notions of role and function. How a company manages to mobilise competencies has a direct effect on its competitiveness. It is no longer enough to produce and sell. If a company wants to stay in the market, it must innovate.

At the same time, the rise in the education level of the active population and the long experience of democracy have altered workers' values and expectations as well as their social relationships within the company. Even if some of them may not be ready to personally bear the consequences, they do aspire to an attractive job, to perform more demanding tasks, to have more direct control over their activity and to take a greater part in the decisions concerning them. Management by competencies with its more individual methods (of evaluation and remuneration in particular) fulfils these expectations.

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* This paper has been written on the basis of the document "Developing and Mobilising Competencies: the challenge of a debate" drawn up for the European Commission, Directorate-General XXII, by the "Competencies" Discussion Network made up of A. Cailaud, O. Homs, W. Kruse, K. Olesen, Th. Reubsaet, M. Tessier

In short, the concept of competencies is a mobilising concept which, by improving on qualifications model, makes it easier to adapt the socio-technical systems to the requirements of the 21st century economy.

However, observing the way in which the concept of competencies is making a strong appearance alongside the qualifications concept, it cannot be said that the new concept is replacing the old one. It is more a case of reciprocal challenge.

Competence: an attempt at definition

The concept of competence is often presented as the opposite of that of qualification. So the two concepts have to be analysed in order to see whether the concept of competence really does have something new to contribute or whether it is no more than a fashionable phrase in an ideological debate between those for and against deregulation of the qualifications-based systems set up in Europe after the Second World War.

The term "competence" has become widely used in education, in the world of training, in businesses and on the job market. Often associated to competitiveness, the word could be a hallmark of current times.

Historically, one can observe an evolution of the "Berufsbildung" concept to competencies, via the concept of qualification. This follows a trend towards organising work in a progressively more flexible way and towards a more utilitarian subordination of training to the needs of the economy. "Berufsbildung" makes reference to educating people for a profession or an occupation, orientating itself to the functioning of the human being as an entity, also paying attention to such things as professional ethics and standards. Qualification introduces a more institutional and societal perspective, while skills is better referred to the individual abilities and competencies and introduces a contextual organisational reference.

The concept of competencies appears to be derived from the theories of intelligence development: competence is defined as the ability to take action, which can be broken down into three elements- knowledge, skill and attitude. However, this ability is nothing more than a potential, which will manifest itself only through performance. As Le Boterf observes, performance is the result of professional practices, it can be observed and measured by parameters (costs, delays, quality ....). He also points out that performance results do not depend only on a greater or lesser degree of competence, but equally on the socio-technical system in which the performance is produced. The concept of competence is closely linked to the organisation in which it should develop. Although, at the moment, competence is generally thought to be recognisable through performance, the two should not be confused.

As companies increasingly try to improve their competitiveness by effective management of human resources, more attempts are made to enhance the concept of qualification, considered as one of the cornerstones of the 'Fordist commitment' (Calude DUBAR). Competence is seen as the basis for a new style of management which goes hand in hand with the transformations in work organisation and the present changes in the balance of

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power between the management and the workers (the diminishing power of the trade unions and collective bargaining).

However, the two concepts can be considered as being two different approaches coinciding in some aspects, complementary in others and contradictory in the area of corporate labour relations. The competence approach has the following characteristics:

It places emphasis on the individual and her/his professional abilities as the key element to professionalism, in contrast to the institutionalised and technocratic nature of the qualifications system. The personality of the individual becomes integrated with his/her professional activity.

It highlights the contradictions in the current qualifications-based systems which use diplomas and classification systems to evaluate the professional capabilities of the individual. The competence approach, on the other hand, places emphasis on how competencies can be put to use - mobilised - for personal involvement in professional activity. The results achieved are the main means for evaluating the professional capabilities of the individual.

The new core competencies, cross competencies or social competencies (according to the different authors), highlight the changes in the professional profiles. There emerges a new kind of professionalism based more on behavioural and organisational aspects than on technical regulations. It results from technological developments which have increased the self-regulation of technical systems, and the increased cognitive and learning capabilities of individuals due to a generally much higher level of education.

- Because emphasis is placed on results and on the setting in which professional activity is carried out, the competency approach highlights the role played by companies in developing the professional capabilities of the individual. From this perspective, the organisation, be it concerned with production, services or other, takes on an important role in socialising professionalism and building professional identities.

In fact, in the world of work, competencies are characterised by a result: the result of a simultaneous individual and collective acquisition process which can be too long. It has to do with the personal characteristics of the individuals and the professional experience they have had in specific areas of the production process, as well as with the abilities acquired outside the professional world, be it in their social sphere, in the family, in the neighbourhood or in leisure activities.

Like qualifications, competencies are a 'social construct'. Philippe ZARIFAN defines them as "collective and individual intelligence of the production situations". By intelligence he means the understanding of a situation and the ability to act on that situation. Emphasis is placed on "knowing how to react".

Furthermore, competencies differ from qualifications in their modes of acquisition:

Qualifications are acquired by individuals irrespective of the context in which they acquire them. They are characterised by capabilities certified by the educational apparatus in the widest sense.

- Competence, on the other hand, can only be acquired in a given production or social context. It differs from qualification in that it has a feed-back to the cognitive processes whose result is evaluated, without trying to identify where or how it was acquired. In this respect, it allows organisations to take into account experience from outside the work context.

Also, one has to distinguish between

- the concept of "competence" on its own, as the overall ability of an individual to mobilise his/her "competencies" through action or external means to produce a specific professional activity on the one hand and
- the concept of "competencies", collectively, on the other which refers to each element mobilised by the individual and considered to be a means for the action.

The two concepts are often used interchangeably which I confuses the debate. The identification of each individual competency is an interesting approach to better understand what constitutes the 'professional competence' of an individual and may allow us to intervene in its development by imparting more knowledge. It also highlights the interaction between the different competencies, viz. when a competency is mobilised it interacts with other competencies to resolve a specific professional problem. To be professionally competent means above all to be able to mobilise and combine the different competencies one has with the different resources that can be used in a specific professional context. (Guy Le Boterf).

Doubtless though, the concept of competence (normally in plural) is often used in a context that is very different from what has been presented above. It is frequently applied with a reductionist and narrow perception of the terms and this poses serious questions on the consequences of its indiscriminate use. If competencies are understood as micro-units of isolated abilities acquired through experience and thus a person's professionalism is reduced to such a set of features, then this would poorly reflect on the quality of labour management, which should be one of the mainstays of Europe's economic competitiveness.

To expect that the qualification of an individual can be reduced to the mastery of one or more competencies on the basis of a generic ability to take action and that a person's training background on a wide professional basis as well as the inter-relationship between the different competencies can be neglected, certainly means to ignore the globality of the mechanisms of cognitive learning. It equates to subordinating the ability to adapt and innovate to short-term operational requirements. It means restricting the person's mobility and external flexibility on the job market.

Hence the term has to be used with great precision, relying on those elements that bring in a new impulse to improve and increase the professional abilities of the European workforce, while avoiding reductionism conceptions that would provoke the opposite effect.

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Qualifications and competencies: searching for a new model

Beyond the conceptual discussions on the evolution of the professional abilities required to maintain the competitiveness of European companies, the key aspect of the debate is how to build up a new professional system based on competencies. The qualification-versus-competency issue brings in an additional debate on whether or not a new professional system should be built, based on the new concept of competitiveness.

Some believe that a general regulation of competencies is unnecessary. They argue that competencies can be defined on an individual basis between employer and employee and that they can be recognised at company level. Emphasis is placed on the concept of "competencies" in plural. Others point out the loopholes this creates in labour relations and the need to build up a new system for regulating the means of access and recognising individual competencies.

Both sides of the debate criticise the current qualifications-based systems, but they find it difficult to implement their ideas in the areas of labour relations. It is hard to find specific experience and practical cases which globally and conclusively prove the benefits of each approach. The experience so far compiled is only partial and specific to certain cases and as such cannot be applied to the system as a whole,.

The debate has produced consensus at least on three points:

- The need to agree on systems for recognising competencies or the professional competence of an individual which are not based solely on education certificates
- The need to gear education systems more towards the development and coaching of professional competencies.
- The need to offer all individuals, including the unemployed, equal opportunities to develop their professional competencies throughout their careers.

At this point the discussions become more complex due to the difficulties of building up a new professional system based on competencies. Some of the difficulties that arise are as follows:

- The competencies approach places emphasis on action taken in specific production environments and so is geared towards the systems of individual companies which makes it hard to build up a global, generic system that can be applied outside the company environment.
- This approach places emphasis on the personal characteristics of the individual and on his/her ability to mobilise competencies in a specific context, which makes it highly complex to objectively measure these competencies, particularly if they have to be recognised irrespective of the context in which they have developed. Some kinds of competencies (the ability to calculate, practical linguistic abilities) can be measured fairly easily, but others, such as the ability to show initiative or work in a team pose problems.
- The pretension to be able to separately deal with each of the individuals' competencies in an organisation running under a global system of competencies highlights the lack of intermediate concepts. These are needed to relate each of the competencies to the global system without making the attempt so complex that it

loses credibility. An example of these intermediate concepts could be provided by the professional qualification certificates in France.

- If the concept of competence is too much seen as a replacement for the qualification concept, we run the risk of forgetting or underrating the training mechanisms needed to acquire the theoretical and practical knowledge which are essential to gain any professional competence. Training on the job is an excellent way of developing and acquiring competencies but its limitations are also too familiar. On the other hand, when developed outside the reference frame of the traditional education systems that still have control over the apparatus for initial and continuous training, management of competencies runs the risk of blurring the benchmarks, not just for those who make a living out of their time spent within the firm or their position on a classification grid, but also for those outside the company.

The basic points on which consensus has been reached and the difficulties arising from the development of a professional system based on competencies allow some observations.

Integrating the triple project of the actors working on competencies

In order to reformulate a professional system based on new concepts we must integrate the projects of the three actors concerned :

- the individual's project, wherein the individual has the responsibility of managing his/her own professional career throughout his working life.
- the company project, where the emphasis is on the relationship between the competitiveness of the organisations and their responsibility to develop the competencies of the individual.
- the societal project, which highlights the social and collective dimension of professionalism and the role played by government and society in general (social and professional organisations) in providing resources and equal opportunities for people to become professionals and to have their professionalism recognised.

Individual strategies and learning societies

If it is true that the individual is responsible for the management of his/her competencies and professional career, and if it is true that the characteristics of the social space (company or not) in which competencies are put into practice determine the wealth and quality of the individuals' competencies, how can people who are not in touch with the world of work build up their competencies? Who can gain access to competencies and how? In particular, how can the problem of access be solved for people over 45-50, for young people without a job, for 'unqualified' people and for the unemployed? In their report (NICE/CEEP - 1996), employers recognise that there still remains a lot to be done in terms of access to training for people without qualifications and for those who have not been trained for a long time ?.

For the individual wishing to undertake the 'maintenance' of his/her competencies, there is the obvious problem of how to access information on training and how to evaluate his/her competencies.

Mechanisms must therefore be devised to give individuals the time and opportunity to gain access to systems for independent accreditation and to work-training contracts.

Discussion

BENEDEK : This diversification in the field of labour and jobs is very interesting. Competencies have become important for different approaches made by individuals or companies. Nevertheless when we speak about the labour market we try to use international category and occupation standards and when we speak about qualifications we often try to compare them and to achieve mutual recognition. In theory, competencies are very close to the human development because the main competencies are the same regardless of specialisation. In the development programmes of many companies, even international companies, these competencies are sometimes very well described and formulated. Do you think, we can try to adapt this competency -based approach because it's a much more flexible, efficient and even less costly approach to training ? The effort to unify qualifications in Europe is more or less consolidated, but what about competencies? Because I have heard of competencies from North America, of competencies from France, all well circumscribed, but when we try to establish common programmes, even maybe between Slovenia and Hungary, this approach leads to incompatibilities. What do you think about an international comparison of competencies?

HOMS : It is difficult to compare qualifications, for competencies it's almost impossible. The question is: 'If competence is related to action, how can we compare action?' Maybe we can compare the results of action? But what is the meaning of comparing the contents of action? If we agree that competence is related to one specific context, one individual has become competent if s/he solves problems at a professional level in a concrete context. But there are many different contexts and in each context we can measure results and we can evaluate the competence. In the abstract without any concrete context, comparing competencies is a theoretical exercise. We have a lot of experience in evaluating competencies at company level. Many companies evaluate their staff based on competence. Maybe one possibility is to maintain the evaluation of competencies at the company level but to build a transparent system of the methods of these evaluations in order to clarify what is evaluated in any specific company. However, I reckon it would be very difficult to build up a European system of competencies which is similar to the unified European system of qualifications. And for now it is not a priority. The priority is to use and to develop competencies, and to make people realise that it is necessary to recognise these competencies. People have to be motivated to improve their competencies and to invest in their development rather than to compare them in the abstract and to build a more or less flexible or rigid system of competencies at a European or cross country level. Before that we have to be patient and to demonstrate that we are able to organise the development and the creation of new competence at local and company level. With these experiences we can then look into the possibility of building a new structure of competencies at cross country level.

CHAIRMAN : What I learned from your talk is not to compare individual actions and individual competencies because these competencies grow under uncertainty. So the individual is forced to act and to find a solution which fits the circumstances. But there is more than one solution to most problems. So there are different solutions and there are different individuals who come up with the solutions. So the control and the monitoring of problems must be forgotten in the creation and development of the individual's competencies. Is that correct?

HOMS : Yes, that is correct.

KUTSCHA : Well, I have learned a lot about the difference between competence and performance. For example linguistic competencies are a set of rules to produce actions. That is a definition in linguistics. But how does it help us? We expect that if someone is able to do something he will do it. I'm interested in the fact that my assistant will run a computer : not that s/he is able to do it but that s/he does it. I'm interested not in the competence but in the performance : how s/he does it and what the results are. I can't understand your philosophy. Of course it's nice to be able to do a lot of things, to have a repertoire of rules and to produce new things every day. But in real life there are things, there are tools you must use: and you can compare these performances. You can compare how different companies produce an automobile and so on. And that is the aspect which matters. It is important to know what the competencies to produce and to create this product are. But in the end what matters is that there is a product as a result of the competencies. Therefore I'm not sure that it is helpful to make a difference in the way you described i.e. that the competence approach is more important than the qualification approach. I think you cannot divide them. They belong together. Think about someone who has the competence to do something. S/he has the ability to do so but never acts. So I would argue for the combination of the competencies and qualifications approach.

HOMS : I am also against this idea that competence can substitute qualifications. It is necessary to combine qualifications and competence because I think it's impossible to see if an individual is competent without using some sort of qualification. It is necessary

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to combine the two. To take up your example, today it is mainly the competence of the car factory which produces the cars, to ensure that everything goes normally. For the individual employee the problem is, for example, to be competent when the machines don't work in the sense of "What should he do?" And this is not possible to forecast before there is a description of the process necessary to produce a car. It is necessary to use, to mobilise the individual resources and other resources. This is the idea : to introduce this concept of competence not only into the description of process but to prepare people to be able to mobilise personal, individual and other types of resources to solve problems which only human intelligence can solve. I think this approach has not been sufficiently considered in our thinking regarding how to train or about our training systems.

NELSON : I was very interested in the debate about qualifications and competencies. And we have had the same debate as well in the UK. And in our system we focus on functional competencies rather than the personal competencies like adaptability and self-confidence and self-reliance and determination and all of that, which we are told are necessary in order to apply the functional competencies. The problem I think we have experienced in England in combining competencies with qualifications is that the educational establishment then must have a method to assess competencies. It will not address anything that it cannot assess and give it a qualification for. So we have a situation, for example, where we have at least the occupational bodies in the UK that formulate a number of functional competencies and then say how we will measure them. But this other range of important competencies such as judgement we cannot measure and therefore we will ignore it. Our system, I think, is very, very limited because of this. We are training people to function in some ways but we're not giving them the added competencies that will enable them to competently act in situations of uncertainty where they have to use their discretion and personal responsibility. This seems to me a very, very difficult problem for us to overcome and a challenge, of course.

THE CHANGE FROM INSTRUCTION-LED TO EXPERIENCE-LED VET IN EDUCATIONAL INSTITUTIONS

Gerhard Herz

Recently the director of the American "School-to-Work programme", Joan L. Willis spoke about a "revolution" in the American VET system: since last year every American student has the right to get the chance to learn in the working world and so, for the first time in the history of the American VET-system, work places are considered as learning places. In her opinion this is a very radical new view of the connection between work and learning on the background that on the one hand the two processes were very strictly separated, and on the other various forms of on-the-job-training were regarded as an appropriate form of vocational education.[9] As in many other countries, at the moment the employers in the US are very unsatisfied with the abilities and the experience that young people have when leaving school. The school-to-work programme is one of the answers of the State and the educational system to deal with this situation.

For many Europeans too learning is very strongly linked to school and connect learning to working is still unusual. Various forms of systematic support will be needed to improve its acceptance.

Looking at the way people think how learning is achieved, we can find two very different ideas on how people learn. If asked, most people would spontaneously characterise learning in the way they used to learn in school: step by step in small "packages" of knowledge in a fixed sequence. For the other form of learning like: learning to drive a bicycle or to use the telephone, to plan a journey or to flirt happens mostly subconsciously in everyday life: we want to have or to use something, solve problems, answer a question or carry out a task and we try to manage it by doing, exercising, imitating others, asking for help, reading a handbook and so on.

To clarify this fact, we can use another analogy:

- Let us consider a person reading a love story, analyse it and as a result know everything about love: its forms, its problems, how to get in this state and so on. Then imagine a person being really in love - with all senses and all these exciting emotions.

This is the difference we try to explain:

- In the first state you know many things about love, you have an idea of it, but your feelings are a kind of second hand article. In the second situation you have the real emotion, you are wholly involved, not just your brain and you act like person in love. Usually educational institutions are dominated by instruction, or best by second-hand experience, their pupils learn to write love letters, but not to kiss!

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[9] Brücke zwischen Beruf und Bildung. Interview mit Joan L. Willis. In: Süddeutsche Zeitung, 8./9. Nov. 1997, S. I

Out of this comparison emerges another reason for improving the integration of work and learning than the one pointed out by the American employers. It is obvious, that experience-led learning is very important for our time: we live in a kind of "knowledge society ", we know a lot, but very much in a very abstract form far away from our daily life. We can get information on any subject and to any extent, but for much of the information we can get we have no criteria to decide whether it is important or not, whether it can help to solve problems in our professional or private life. So the immediate connection between real life situations and knowledge or - as a special case of this - the close link between work and learning can help to improve the ability to distinguish between relevant and irrelevant things and processes. It helps to become more certain in judging situations and thus supports decision making.

In order to clarify the advantages and the problems of the two learning approaches we will list the various aspects to be considered. By looking at these factors and finding ways of linking the different poles, it should be possible to manage the change from instruction-led to experience-led VET.

In our opinion, these two forms of learning are just the two extremes of a continuum of many and various ways of solving a problem or answering a question - in other words: of learning.

In a social and economic environment with very high requirements in qualification and skills, it is necessary to think how to best supply people with a set of qualifications enabling them to cope with the professional challenges of the future. As in many other fields we have to be sceptic about any suggested panacea i.e. the one best way. Probably there will be many different ways depending on the aims, the circumstances and the conditions of the people involved. Nevertheless our thesis is, that in vocational education and training there is a very elaborated tradition in the above mentioned systematic - school-oriented - form of learning and a lack of non-anecdotal experience for the second form - workplace-oriented learning.

This is of course not surprising in countries with a school oriented VET-system, but for example until the early nineties the German dual system had also moved into this direction. The main objective of emphasising experience-led learning is to better integrate learning and professional problem solving into production as well as into services. The rational basis of work-based or experience-led learning is different from planing learning in "learning structures".

Education events are related to teaching and working out contents and aim at changing knowledge and action structures in individuals. Generally they are rather rhythmically structured into different phases and allow individual progression.

In a production or service process however, there is not much possibility for individualisation. The pace is set by technical or customer-oriented specifications. Other main factors are quantity, money and various time-related parameters. The "right" behaviour i.e. the knowledge and capability must be there from the beginning. The enterprise's business schedule according to defined needs determines, when the final state has to be reached, and not the individual learning schedules.

If we accept that in spite of these differences between work and learning work-processes provide particularly important learning opportunities for life and professional practice, there must be consequences for a didactic approach to the working process. The main task is to create awareness at the places where work happens in order to select areas of a high learning potential and to set up an organisation of work and learning which is suitable for the needs of the company and the development of the people working in it. This might seem a paradox or contradictory task as if changing a working place into an learning place. It looks like an attempt to "didactisise" a field of society which is normally not seen in terms of didactic categories. To resolve this paradox and point out the similarities between these two traditionally separated fields of action we will confront some central factors that have to be considered[10]:

This model refers to the notorious difference between school-based learning and the forms of learning caused in working and professional life. While instruction-led situations mostly have a systematic and complete structure, the work situation is by necessity incomplete, unsystematic and accidental. On the other hand, there is much more motivation because it involves management of special professional situations, necessary professional changes, or many questions concerning the structure of private life, all of which does not enter into school-based learning processes .

The structure of this model has been developed considering the classical elements determining a didactic field:

- contents
- relation between trainer and trainee
- methods
- media
- organisational, socio-cultural environment

In learning events the teaching is defined by principles, such as progressing from the easy to the complicated, distinguishing between central and peripheral subjects, or progressing from more to less familiar phenomena according to the learner's experience.

Commercial work as a didactic field must be led by the principle of economic efficiency. Here trainers have to accept that the basis is the target and the implicit schedule of this process. This may eventually exclude the previously mentioned principles and for example in trouble shooting in maintenance tasks lead to a progression from the complex to the simple.

In didactics selection means two different things: selection of the learning group and selection of the learning contents. In pure learning events contents can be chosen according to age groups and their degree of development, whereas in work the contents are set up by pre-defined sequences. Obviously workers have to be selected according to their abilities. However, a working group will be composed according to the capabilities required for the work process and not to the individual necessities of personal development.

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[10] I adapt a diagram already used in: HERZ, G.: Erfahrungsbezogene didaktische Ansätze für das Handwerk. In: ALBERT/ BUCHHOLZ/ BUCK/ ZINKE: Auftragsorientiertes Lernen im Handwerk. Tagungen und Expertengespräche zur beruflichen Bildung 15. Berlin 1992, S.40

	LEARNING INSTITUTION	WORK
System	according to the structure of a curriculum	according to technical, personal and time related capacities
Content selection	according to the age of the learners and the structure of the pertinent discipline	according to actual orders, needed products and economy tasks
Capabilities demanded	mainly cognitive	integrative (cognitive emotional and psychomotoric elements)
Application context	simulated for learning purposes, not real life	actual and real
Learning media	artificially set up	The working processes and tools themselves
Structure of the social context	oriented towards function and tending to asymmetry (teacher - pupil)	oriented towards capabilities and tending to symmetry (customer - producer or service-provider)
Learning environment	didactically created	didactically usable
General organisation	centred on administration and bureaucracy	centred on economic aspects
Goal	Teaching : didactically structured education	Learning: didactically reflected adaptation of the real life work

As regards required capabilities this contrast is certainly overemphasised. But much of what we hear about frustration and learning difficulties in schools, is related to the application context of learning subjects: the farther away they are from the experience field of the pupil and the more abstract they are, the lower is the motivation for most of the pupils. On the other hand, every trainer has seen the engagement and even enthusiasm of an apprentice when s/he has the opportunity to take over real responsibility, for example when a sales trainee has to fill in for a salesperson and is asked to handle this task on his/her own as a respected representative of his company.

It cannot be denied, that there may arise real problems when changing from instruction-led to experience-led learning: Not every trainer has enough self-confidence, to risk mistakes, disturbances or breakdowns caused by apprentices working without experience. Expensive technical equipment or important data could be destroyed. It is impossible to argue against this fear and a trainer or foreman who is afraid of all that should not dare too much in his own best interest. In facing such situations it is much more helpful to remember one owns most impressive learning experiences : this mixture of a real challenge, responsibility, anxiety and deeply satisfactory feeling of success after overcoming difficult situations.

This and extensive work with apprentices who have mastered very difficult tasks with a great amount of responsibility, survey and great competence, brought out by a real challenge may give the confidence to take the risk. And when apprentices provide economic benefits for the company by working successfully on real orders, the managers may be inclined to give them real responsibility.

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A learning culture has to be established as a matter of course. One of its principles must be, that there are always several possible solutions for a problem and how to find the best or the most appropriate one under given circumstances is central to the learning process. Obviously everybody involved has to do this very consciously. Of course every effort has to be made to avoid mistakes, but there is a second principle : mistakes should bee regarded as a chance for all employees to learn, not just for the apprentices.

Both principles are important parts of a didactic framework for the learning process on the way from instruction-led to experience-led learning.

Looking at the learning and working-situation as a whole, we can characterise it in didactic terms as follows:

- economic situation
- real orders
- customer orientation
- handling of mistakes

Here we are talking about the factors of a didactic or pedagogical arrangement. Reaching beyond the traditional teaching situation into experience-learning situations in schools and in companies, we have to translate the traditional didactic factors, mentioned before and arrive at the categories as shown in the diagram:

The learning person is the centre of every didactic effort. Looking at experience situations and the aim of integrating work and learning, we have to consider this central figure not merely as a learner, but also as learning worker and a working learner. In the context of didactics the learner's or worker's age, his/her formal and personal qualifications and her/his function in the work situation are the factors which determine the whole learning arrangement.

Most learning situations are built on a relation between the learner and a supporting or teaching person. Especially in experience-led situations this task needs more than good qualifications for a specific job. It requires a fair degree of key qualifications such as communication, co-operation, ability to teach etc. In the case of adult learners, this learning relationship has to be characterised by mutual respect and co-operation.

Considering possible places for instruction-led and experience-led learning we have to take into account two important aspects: first, there is a great difference between the various learning places, if we think - for example - of a student in a classroom, a worker in a factory or a craftsman working in the house of a customer. Every situation produces different learning processes, if we find the relevant and interesting professional contents in it and it can be related to the learning goals. The second aspect is to learn to recognise normal life and work situations as learning opportunities, because we are more used to looking at the school as the "normal" learning place. The ongoing effort in many companies, to make processes more fluent and to establish processes for continuous improvement can support this kind of learning.

The diagram highlights another aspect of this training: the choice of appropriate methods and learning media to handle the working or learning situation. Although all trainers know something about teaching or training methods, here a set of different methods is needed to meet the challenge of a complex learning situation involving demanding learners. It is definitely an element of experience-led learning that the main learning-media used normally are not a book or paper and pencil or learning-software, but the working situation itself with its documents, its hardware, the material used for it and the real process software.

While instruction-led learning normally operates in a kind of learning organisation, which is mostly defined by a series of lessons with fixed dates and time referring to a given curriculum, experience-led learning has to constitute the learning organisation itself. Moreover, in most cases this organisation has to be established by the trainees and trainers themselves. This is a serious obstacle, because it can be responsible for not undertaking these forms of learning.

The arrangement of this diagram must not be considered as a fixed or a schematic one in order to admit the postulated openness. But it could be a help for modelling special worlds of learning. Considering it as a holistic approach to shape a learning situation as a whole, we have to analyse what brings about efficiency in this field, what happens at the interfaces, e.g. between "organisation" and "methods" or "media", "trainers" and so on.

In this paper, we just want to give an survey of the challenges connected with learning-processes that are reaching beyond the usual conditions. Further description and the set up of necessary or helpful instruments will be subject of a separate project.

In conclusion of these reflections we want to give a short list of the positive and negative impacts, the pros and cons concerning experience-led learning and then point out three important (consequences or prerequisites) for establishing new types of learning.

PROS and CONS

	INSTRUCTION	EXPERIENCE
Aims	completeness	ability to act
Ways	carrying out plans	satisfying customers
Advantages	system (knowledge)	immediate (vocational) life (skills)
Planning	central planning	situation-defined and local reaction
Limits	blank-out of complexity and polyvalence of real life (B. BUCK)	Taylorism
Results	general	individual / personal

This table colours the situation in black and white and it is obvious, that the positive and negative poles of this subject are not as one-dimensional as the table suggests. What we are aiming at, is to point out the key aspects. So in real work and learning processes, the objective of the curriculum to reach completeness of knowledge and skills on the one hand and the one to create the ability to act professionally in real professional situations on the other hand have to be integrated. Nevertheless it is generally the case that instruction led learning tends to reach completeness, while experience-led or work-bound learning enables the trainee to develop professional skills for actual tasks or problem-solving.

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To execute the plan of a curriculum for a certain profession is not less legitimate, than to satisfy the customer in an real work situation.

Comparing these two methods, we just have to know and to decide, in what direction we want to go. Reflecting the advantages of the two ways of learning a similar decision has to be made. If one needs a very systematic and complete survey over the knowledge of a profession, the instruction-led form of learning is adequate. Actual and immediate application in business with its different needs, based on a changing order-situation would more easily be handled - and learned - in an experience-oriented way. And of course it is simpler to plan and structure a learning situation for instruction based learning while a direct and immediate reaction to changing situations or special and regional demands is a great challenge, where one has to be prepared for experiments.

Both types of learning also have their limits: while the situation of systematic instruction tends to blank-out the complexity and polyvalence of real life (B. BUCK), it must not be forgotten, that many working situations do not provide a good opportunity to gain professional experience because they have only narrow range demands on professional knowledge. The extreme situation would be completely Taylor-organised work, which allows only three or four simple operations and can be learned very quickly but does not provide any opportunity for personal development. Looking at all these factors we realise, that also the results of these two ways of learning will be quite different. In the table, we described the two opposites as "general" on the one hand and "special" or "individual" on the other hand. Which of both is desired always depends on the goals and the situation as a whole.

Thinking about the various consequences, we try to point out three crucial factors which should be considered and turned into action when moving from instruction-led to experience-led learning.

The first concerns the whole organisational framework for education and training. In all European countries there is a very strong tradition of state-based and state-dominated educational systems in general and vocational education in particular. This tradition has its roots in an period, about two hundred years ago, when general education for all people was not a matter of course.

Meanwhile the civil rights have grown, and the state could liberalise the educational system in order to give its citizens more freedom for managing their own life including their and their children's education. The state could just set the organisational and financial framework. In an educational system based on a higher demand of self-management the participants would learn self-management. It could help them to get out of the passive part of being educated by a big anonymous institution and become actors.

In our estimation, this seems an important condition, which is still considered as unusual. Naturally this would lead to a reduction of state power, and many education jobs could loose their security in status and income becoming comparable to jobs in the business sector. Autonomy in education is one of the perspectives an active educational system still has to develop.

The second consequence highlights didactic implications. It seems to ensue that instead of formulating learning objectives in the traditional way new goals should be defined which we will call action goals. Obviously they have to include the old learning objectives but they have to cover more. A car-mechanic for example should not just learn how a clutch is

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functioning and which parts it is consisting of. He should also and especially know, and consider in his daily work, the appropriate function of this car part for making driving comfortable and safe in all traffic and, above all, what his customer wants. Therefore, the traditional learning goals have to be embedded in organisational and customer-oriented objectives. This is not the place to explain all this in detail. We just want to show the direction that has to be seen - and taken.

The third consequence deals with the question how to reach this new set-up. So it is a methodical question as already mentioned. We do not suggest, that it is necessary to re-invent everything and to forget about all the methods, which have been used by trainers and teachers until now. We are however convinced, that the methodical question requires a new awareness of a high degree. The new methods fit into the general category of what we call discovery-learning. The key idea is, that the learning process will be more active when the learners come into situations, where they discover themselves a problem or a question to be answered. There is a long tradition in education which stresses that discovering problems on one's own and then trying to solve them is a more efficient and challenging way of learning than answering questions given by a teacher or found in some kind of learning material.

Regarding the change from instruction-led to experience-led learning, we find a very open and demanding situation. It is an experiment in itself to adopt this idea. All the factors mentioned here need further development in spite of numerous experiences we already know about. Considering the analogy at the beginning of this paper, our task is to encourage ourselves, the trainers and teachers working in this field falling or being in love, instead of having a lesson in writing love letters!

Discussion

CHAIRMAN : Maybe Gerhard you should explain what you call discovery learning. Some of us know it from Germany but I think there is something behind it that is less well known. Just give us a definition or give an example of discovery learning and maybe also one for what you call 'Handlungsziele' i.e. action targets or action objectives.

HERZ : I can give you an example for discovery learning. Traditionally apprentices learn to handle a machine by sitting in a room and seeing a picture of that machine. If the trainer is good he sometimes has some charts but the fact remains that they talk about the machine, even in companies with well equipped machine training centers. In my example they talked about the machine for at least three days with the result that most apprentices began to get restless and couldn't listen to this instruction because they wanted to see the machine, to put their hands on it and to do something with it. We had the opportunity to change this frustrating method. They first went to the machine, inspected it and tried it out. Initially the trainers were very worried about their beautiful and expensive machines but the apprentices were very careful and treated them with great respect. Another example stems out of a situation in a car factory where the apprentices and many of the employees never saw the end product and because of that many of them didn't know what function the part which they produced had in the whole line and in the final car. So on one of the first days we took them to the end of the line, to look at the final product and then went backwards showing them how the different parts come together and allowing them to identify "their" components and relative functions. These are two examples of discovery learning.

JAGANJAC : This provides very good experience and it should be used moreIn World Bank projects they used the so-called "lessons learned" method : after each project they analyse and define the weak points in order to avoid them in the next one. These are the "lessons learned".

HERZ : Thank you. That's what we did in the above examples. During and after the projects we had systematic evaluation sessions run by the apprentices themselves and we were just the facilitators for methods and for instigating better planning and some visualisation techniques. We then collated the results especially the weaknesses to avoid them the following week. Every week there was a long evaluation session and every morning a short planning session. At the end of the whole process there was a presentation for the management on the apprentices' findings and on the weak points as they saw them. The management was very interested in hearing such an assessment from employees at this level.

DEVELOPMENT OF TEACHERS AND TRAINERS FOR INTEGRATION OF WORK AND LEARNING

David Oldroyd

Introduction

This paper explores a complex topic - the pre-service and in-service development of VET teachers and trainers in order to prepare them for their role in the integration of work and learning (IWL). IWL is one aspect of a complex process of VET reform. It takes place at the interface of the VET school and the varied workplaces of numerous enterprises. The VET teachers (school-based) and the VET trainers (workplace-based) are the key actors in helping VET students to integrate their learning in the two locations. For the purpose of clarity, the terms teacher and trainer are used to distinguish those in the schools from those in the enterprises. Much of what is presented applies equally to other aspects of teacher and trainer development, whether *pre-service* (preparation before starting to teach or train) or *in-service* (further development once they are carrying out their roles). We assume that the case for IWL for VET is already accepted. Its justification is well made in other papers in this publication. We will argue that the preparation of *VET teachers* (*instructors or facilitators* based in schools or colleges) and *VET trainers* (*supervisors or mentors* based in workplace enterprises) can itself be done through IWL. Thus the teachers and trainers 'practice what they preach'. We will assume that VET teachers and trainers receive the off-the-job part of their development, whether it is pre- or in-service, in colleges or training institutes which are the equivalent of the VET school for the VET student. The on-the-job work place of the VET teacher is the VET school and the individual firms or enterprises are the workplace of the trainer where they offer supervision and coaching to the VET students. The processes described throughout the paper are relevant to both IWL for VET students and IWL for teachers and trainers. Only the locations and key actors differ.

After examining some of the variables of IWL relating to the development of teachers and trainers, examples of pre- and in-service IWL for teachers in the UK and Poland will be presented. These will then be analysed and some general principles and models offered for the consideration of VET teacher and trainer education reformers at both policy and programme levels.

A. A complex innovation within a complex reform

The roles of VET teachers and trainers are becoming more intensified as changes in laws, systems, organisations, qualifications, technology, work practices and social attitudes accelerate. New goals and core skills for VET students and trainees such as self-direction, problem-solving, team working, enterprise, self-confidence, make increasing demands on their teachers and trainers. VET teachers need to be facilitators of learning in addition to being instructors; VET trainers need the refined skills of the coach and mentor in addition

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to being supervisors of their trainees. The same is true of the teachers and trainers of VET teachers and trainers. In common with teachers everywhere, they need an increased repertoire of teaching styles, both traditional and constructivist (see Figure 3 below) and continuing professional development to adapt their repertoire to changing educational goals such as IWL.

In relation to the development of VET teachers and trainers, the concept of integration involves:

- *key actors* - teacher trainer - work-based mentor or tutor - trainee teacher
- *locations for learning* - off-the job - close-to-the-job - on-the-job
- *modes of professional learning* - education and training - self-development - support in the form of coaching for reflective practice
- *learning outcomes* - theoretical knowledge - practical skills - attitudes for success
- *teaching/learning strategies* - instruction - investigation - combinations of the two

and, in relation to system level diffusion of policy and practice in developing VET teachers/trainers :

- innovation strategies for programme development and implementation - top-down - bottom-up - lateral diffusion of policy and good practice

Figure 1 provides a summary of the multi-level complexity of institutions and individuals involved in VET reform. Five levels (Levels 5-10) are shown in the 'superstructure' - the policy-making levels with a stake in teacher and trainer development. The institutional 'infrastructure', where development of both the VET teachers and trainers and the VET students is carried out, is particularly complex. There are parallel institutions for preparing teachers and trainers, and, if IWL for students is to succeed, there had to be an integration of programmes between these parallel institutions (Levels 1-4).

Potentially, all the institutions and actors at all levels have their contribution to make in the integration of work and learning, but the ultimate measure of success in VET reform and teacher and trainer development will be the integration of learning achieved by each and every VET student. This can only be achieved through the co-ordination of policies, curricula, methods and assessment between the parallel institutions at levels 1 to 3 and the preparation of teachers and trainers to do this. Teacher and trainer development alone will not be enough to ensure this success. Policies, resources and support from the superstructure will be needed as well as organisational, leadership and curriculum development within the institutions in the infrastructure. Thus, there are many variables to be integrated by actors at several levels in the VET system in order to prepare teachers and trainers for IWL. The following examples show how teachers can be prepared by IWL to integrate their own professional learning with their own workplace - the school.

Figure 1
The complexity of VET reform

LEVELS		INSTITUTIONS		INDIVIDUALS	
Super-structure ***(Policy Levels)***	**10**	Supra-national Organisations		Legislators and civil servants	
	9	International Projects (temporary institutions)		Foreign and local experts and change facilitators	
	8	Ministries and Project Management Units		Legislators, civil servants and project managers	
	7	Government Agencies, Inspectorates, Research and Development Centres		Reformers, inspectors, researchers	
	6	Provincial Education Authorities + Employers' Associations		Inspectors, trainers and officials	
	5	District Education Authorities + Employers' Associations		Officers	
Infra-structure ***(Programme Level)***	**4**	Teacher Education Colleges	Trainer Training Institutions	Teacher trainers and VET teacher trainees	Trainer trainers and VET trainer trainees
	3	Schools	Enterprises	School leaders	Managers
	2	Teams of teachers	Trainer teams	Team leaders	Training Co-ordinators
	1	Classroom	Coaching relationship	Individual teachers and students	Individual trainers and students

B. An example of pre-service teacher development by means of IWL

The search for integrated work and learning has a long tradition in teacher education in England. Teacher education colleges or universities have evolved ways of working with the schools for which they prepare teachers. In recent years, legislation has increased the proportion of time pre-service teachers receive their initial training in the workplace of the schools to two thirds, compared to one third for their courses in the teacher education institutions. A new agency, the Teacher Training Agency, has been established and, after extensive consultation, it formulated a National Framework of 54 standards for newly qualified teachers which will be inspected by the Office for Standards in Education (OFSTED), the national inspectorate. Both the TTA and the inspectorate would be located at level 7 in Figure 1. These standards form the basis for the curriculum of teacher education which is the shared responsibility of the teacher education institutions (level 4) and their partner schools (level 3). The integrated college-based and school-(workplace)-based curriculum, both general and subject/ teacher specific, is negotiated between the college and school-based tutors of the pre-service teacher trainees. The curriculum is reviewed annually by regional Subject Committees. The partnership arrangements are organised through regional partnership Steering Committees and job-specific Subject

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Committees for teachers in specific subject areasColleges draw up Partnership Agreements with up to fifty partner schools and all partner schools have Associate Tutors who are the work-based trainers of the pre-service teacher trainees. The larger schools have a Professional Tutor, usually a member of the Senior Management Team. This person is responsible for liaison with the Colleges and for co-ordinating the team of Associate Tutors who are specialists in particular subject areas. Annual Partnership Conferences are organised to support IWL for the trainee teachers and the Professional and Associate Tutors receive training in the Colleges which can be accredited for advanced qualifications such as Diplomas and Masters degrees. A detailed handbook outlining the College teacher education curriculum is provided to all school-based trainers. The trainee teachers are assessed and accredited by the College Tutors on the basis of action research projects carried out in the workplace. Both the colleges and the schools are inspected by the national inspectors and there are also local quality assurance procedures put in place by the Steering Committees to ensure conformity to national standards.

There are two additional models for the education of newly qualified teachers which eliminate the teacher education colleges completely. One is where a consortium of schools (the equivalent of enterprises in IWL for VET students) takes over the entire training programme and runs the theoretical courses as well as providing the school-based work experience. The second is the Open University's distance learning route to qualified teacher status based on self-instructional packages and tutoring by the school-based Professional and Associate Tutors. About 4,000 of the 25,000 new teachers in the general education system who qualify each year are trained in this way.

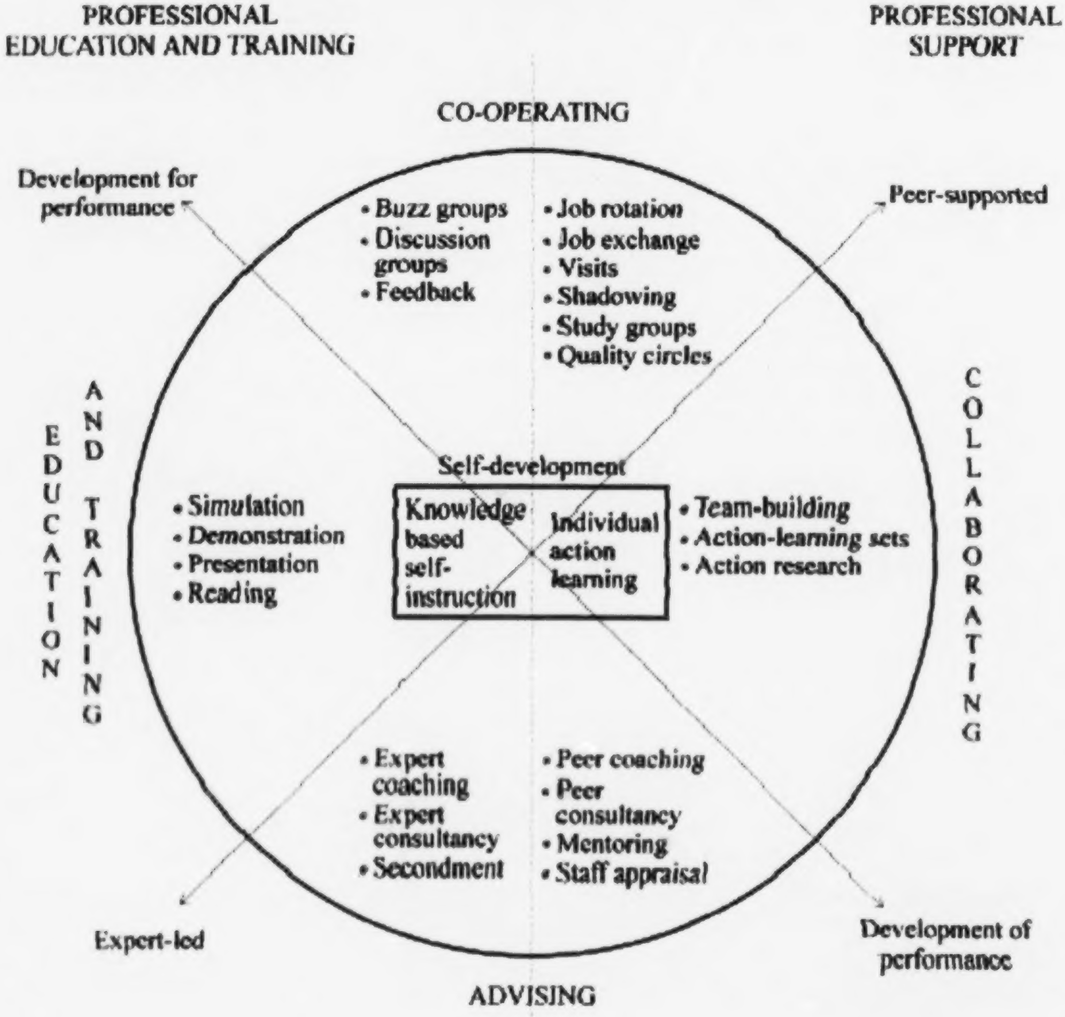
The above short outline of the preparation of teachers in general education in England illustrates the structures and mechanisms for achieving integration between work and learning. The five forms of integration referred to in the previous section - actors, locations, modes, outcomes, strategies - are all addressed by the Partnerships. The approach is essentially top-down, deriving from legislation and the direction of a government agency, although considerable leeway in organisational liaison and curriculum development is given for local partnership arrangements. However, there is a rigorous, expensive and time-consuming bureaucratic process of national inspection backed up by local quality assurance procedures to ensure conformity with the national standards. This approach represents a coherent policy encompassing all the levels in Figure 1, from national policy via standards, inspection, regional and local structures (in the superstructure) to specialist support roles, handbooks and learning resources and quality assurance processes in the infrastructure. It offers one direction for the construction of VET pre-service teacher education in Partner countries into which IWL could be centrally incorporated.

C. An example of in-service teacher education by means of IWL

In Partner countries, as elsewhere, many practising VET teachers need further training in order to meet the new challenges of the rapidly changing VET system and, in particular, the challenge of IWL. In Poland, an approach to in-service education of teachers has been successfully adapted from England which might serve as an approach to developing VET teachers' and trainers' in-service learning. Hendriske (1996, p.111) writing about IWL in VET, distinguishes off-the-job training from work-based training and work-based learning and points to the shift from the former to the latter. This shift, as we have noted, is happening in teacher education in England. The model in Figure 2 (Oldroyd and Hall, 1991) locates a wide variety of professional learning activities into three broad modes:

- *education and training (off-the-job)* - provided in universities or training centres
- *self-development (close-to-the-job)* - based on distance learning ; self-instructional and self-review or action learning materials
- *professional support (on-the-job)* - provided by school-based professional tutors, subject-specialist mentors and peers

Figure 2
Activities for in-service development of teachers


PROFESSIONAL EDUCATION AND TRAINING
PROFESSIONAL SUPPORT
CO-OPERATING
Development for performance
Peer-supported
• Buzz groups
• Discussion groups
• Feedback
• Job rotation
• Job exchange
• Visits
• Shadowing
• Study groups
• Quality circles
EDUCATION AND TRAINING
COLLABORATING
Self-development
• Simulation
• Demonstration
• Presentation
• Reading
Knowledge based self-instruction
Individual action learning
• Team-building
• Action-learning sets
• Action research
• Expert coaching
• Expert consultancy
• Secondment
• Peer coaching
• Peer consultancy
• Mentoring
• Staff appraisal
Expert-led
Development of performance
ADVISING

Oldroyd and Hall, 1991

Self-development is not incorporated in Hendrikse's model, but it can be a powerful and low-cost mode of learning which helps the trainee to connect off-the-job learning to work-based learning. Well designed self-development materials can offer guidelines for effective teaching (combining instruction with facilitation) and training (combining supervision and coaching); encourage self-review and reflective practice. There is also scope for peer-supported learning and peer coaching in addition to the support of mentors in the workplace when such materials are available to structure on-the-job action learning and research.

In Poland, this IWL development model is used for self-development of teachers who have management roles in their schools. Over a period of three semesters, the teachers attend seven intensive two -day workshops at a university and, back in their schools, they follow a programme of reading, self-review and action research relating to their on-the-job development. The work-based learning is structured by three self-development packages each involving about 40 hours of independent or group self-study per semester. A similar model could be employed for the development of teachers and trainers for VET in general and for their roles and tasks in IWL in particular. One could imagine a self-development module on IWL forming part of an integrated in-service learning programme for VET teachers.

Borrowing from practice in the business sector, work-based self development has become an additional form of professional learning for experienced as well as pre-service teachers in England and most schools now have an internal infrastructure (policies, roles, budgets, targets) for providing continuing professional development (CPD) for their staff within the school. In Figure 2, the 'Professional Support' half of the diagram illustrates the wide range of structured activities now found in British schools. Work-based self-development is a way of bridging the gap between theory and practice. Schon (1987) conceptualised *'reflective practice'* as one means of enhancing professional performance. He argued that recipe-style knowledge taken from text books is of minimal help and that effective practitioners are those who are able to reflect critically on their practical experience; Kolb's (1975) famous model of learning styles has popularised *'experiential learning'* which has encouraged much more active forms of off-site learning, as well as placing the stress on practical on-site work experience as a source of learning. The activities in Figure 2 are elaborated in detail elsewhere (Oldroyd and Hall, 1992) but the model which integrates conventional education and training with advising by expert and peer mentors and coaches, in addition to on-the-job peer co-operation and collaboration seems a possible way forward for the development of relatively low-cost approaches to VET teacher and trainer development. It does, however, require attention to the organisation, management and culture of the workplace to create appropriate conditions for this type of IWL.

In Poland the three semester IWL programme for teachers was developed with technical assistance from the Know How fund by teams of writers and teachers co-ordinated from the University of Silesia and the Katowice Provincial In-service Training Centre. A country-wide network of facilitators has been trained who disseminate the self-development materials and support their work-based use. This particular innovation in teacher and trainer development has spread through a process of lateral diffusion from a single centre of excellence in contrast to the top-down bureaucratic strategy employed in the example of pre-service teacher education reform in England described above. (For a fuller account see Oldroyd, 1997) Nevertheless, it requires support from the superstructure of the education system, in this case levels 9 and 6 supported the production of materials and the training of personnel in levels 4 and 3 in Figure 1.

D. Models for teacher and trainer development

The two examples cited offer some general models and suggest a number of questions for policy makers and programme planners of VET teacher and trainer development. In teacher and trainer development as in all fields of curriculum development there is a continuing tension between two broad approaches which are summarised in Figure 3.

Figure 3
Two broad approaches to learning

Traditional Instructional Approach	Constructivist Investigational Approach
• meaning and skills are transferred from teacher to student	• meaning is made and skills developed by the learner through a process of experience, investigation and experiment
• emphasis on basic skills	• emphasis on higher order skills
• subject matter oriented	• emphasis on learning process
• structured approach with pre-specified objectives, small steps, frequent questioning and feedback	• discovery learning in rich learning environment
• abstract generalisable knowledge	• situation-specific knowledge, learning from cases
• standardised assessment	• project-based, subjective assessment

(adapted from Scheerens and Bosker, 1997)

The two examples of teacher development outlined above combine elements of both these general approaches in the development of pre- and in-service teachers. Some sort of balance between the two would also be desirable in preparing VET teachers and trainers for their roles in IWL. The more traditional approach to knowledge and skills development is integrated with work-based learning in the sequence of steps set out in Figure 4.

This model fits exactly the steps needed for integrating pre-service college and work-based learning described in part B where co-ordination between tutors in the college and in the partnership schools is possible. It is also feasible in the approach to IWL in-service education for teachers shown in figure 2. The transfer of learning from off-site courses into performance in the workplace is achieved through a combination of action planning and coaching. Where the action planning of the trainee has the joint support of the off-site teacher and the work-based trainer-coach, the integration is complete.

Figure 4
A model for integrating off-site instruction with work-based learning

Structured Activity	Focus	Outcome	Key Role
Off-the-job (in the school or workplace)			
1. THEORY	What to do and why?	Understand purpose and process	Instructor
2. DEMONSTRATION	How is it done?	Understand action	Facilitator
3. PRACTICE	How can I do it?	Gain experience of using the skill	Trainee
4. FEEDBACK	How did I do?	Evaluation of practice by the facilitator	Facilitator
Close-to-the-job			
5. ACTION PLANNING	How shall we practise in the workplace and be coached?	Plan to perform and receive feedback about performance in the workplace	Trainee as peer coach OR trainee with mentor
In the workplace (on-the-job)			
6. COACHING OR MENTORING	How am I doing on-the-job?	Feedback in the work-place leading to effective performance on-the-job	Workplace mentor or coach

(adapted from Joyce and Showers, 1980)

Coaching of teachers on-the-job is increasingly common and mentoring is a more refined form of coaching in which the affective needs as well as the cognitive needs of teachers are attended to by work-based mentors such as Professional Tutors. Figure 5 clarifies the cognitive and affective tasks for which coaches and mentors of teachers and trainers (and the teachers and trainers themselves in their facilitating of VET students' learning) have to be prepared.

Figure 5
Cognitive and affective dimensions of coaching and mentoring

COGNITIVE DIMENSION *Joint creative problem solving sequence*	AFFECTIVE DIMENSION *Non-directive counselling sequence*
1. Clarify the purpose and opportunities for the learning	1. Develop respect for each other
2. Define the problem and review the situation	2. Encourage an attitude of discovery and self-awareness
3. Identify needs and agree success criteria	3. Build empathy and share perceptions and feelings
4. Explore the barriers to effective performance	4. Encourage reflection and reinforce sharing
5. Agree tactics for change and improvement	5. Establish trust and summarise mutual commitment to success

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Kutscha (1998) elsewhere in this publication maps a new concept for firm-based training and action-oriented learning. It relates to VET students but, although it does not refer to affective learning , it elaborates in a clear way the relationship between coach and trainee. This cycle of steps is equally relevant to the coaching of teachers or trainers in their own workplaces. The addition of action research to the process of teacher development as illustrated in the example in part C combines self-development and investigational approaches. Action research involves intervening in one's own workplace situation or performance in order to bring about improvement. Teachers and trainers are challenged to make a reconnaissance of their work before making a plan to change their practice; having experimented with their practice they reflect upon the experience and frame their conclusions in an action research report which may be submitted as part of their assessment for qualifications. This is a type of project-based learning which is well suited to encouraging a problem-solving attitude and the habits of the 'reflective practitioner'. The problem of implementing IWL would be a fitting subject for action research for both VET teachers and trainers.

Conclusion and a modest proposal

It is evident that the reform of VET teacher and trainer development cannot be detached from the broader VET reforms which provide the policy environment in individual countries. There are many prior questions about the nature of the systems for which teachers and trainers are being prepared which will influence policies and plans for VET teacher and trainer development. The development of teachers and trainers including their preparation for implementing IWL for their students can itself be based on IWL. Two examples of the use of IWL in pre- and in-service teacher development in general education have been offered. Although they derive from specific settings, they provide models for adaptation in VET teacher and trainer development elsewhere. The challenge of integrating the variables described in the introduction are considerable, but a modest proposal for any country wishing to strengthen the preparation of its teachers and trainers by and for IWL might be to:

1. Make IWL a high priority in national policy and standards for VET teacher education
2. Encourage national, regional and local structures for VET and social partners to do the same
3. Use national inspectors and local quality assurance schemes to monitor and encourage the preparation of teachers by and for IWL
4. Set up a project to develop guidelines, training and self-development materials on IWL for use in both off-site and on-the-job teacher and trainer development programmes
5. Include in these materials:
   - the *rationale* for IWL in VET
   - a summary of national *policy and standards* on IWL
   - *guidelines* (models, roles, skills, tasks) to help teachers and trainers implement IWL at the interface of school and different types of enterprises
   - *case studies* of effective IWL at home and abroad

- key questions for *self-review* of existing practice as a basis for *action research* into and the development of IWL in the workplace of both teachers and trainers

6. Use IWL itself as a key component in teacher and trainer development.

Much of the material in this publication will contribute to the implementation of such proposals. However, as many years of research into educational reform has demonstrated, materials alone are not enough, the development of curricula for teacher and trainer education must also be accompanied by development of the educational superstructure and the organisational infrastructure and leadership of the institutions in which teachers and trainers attempt to integrate the learning of their students. Preparing teachers and trainers for IWL is a challenge that will engage us for many years to come.

Discussion

BENEDEK : We try to use different approaches developed in North America and Japan. You mentioned cognitive dimensions and affective dimensions but you didn't say anything about the psychomotoric dimension which in training on the practical level seems very important.

OLDROYD : It's an omission based on my client group. I'm largely training school managers in schools and their psychomotoric skills are not used in flogging the children anymore. - So yours is an obvious point if one generalises my charts generally to vocational education and training.

CHAIRMAN : You talk about teacher training and trainer training and you have this triangle : teachers, trainers, students and you talk about the integration of work and learning in the context of teachers. Of course for teachers the school work is real work. For them it can be sufficient to be trained in a school - that is their work place, but for the students it's not. The students they teach have to learn something of work outside school. So should there be another kind of integration of work and learning for teacher training? Shouldn't there be some ingredient ensuring that teachers get in touch with other people's real life situations - the future work life of their students?.

OLDROYD : My talk was on how to train teachers and I was advocating that you should use integrated work place learning in the training of teachers. And their work place is the school where they have experience of the integration of both the theoretical and the practical. But I would totally support, particularly for VET teachers, that one component of their knowledge for understanding and particularly their knowledge for action, is derived from work-based experience in a selection of companies. In Britain there has been a major effort to have placements for teachers, in-service teachers, in companies sometimes for up to one year. Even head teachers for example are shadowing a manager of a company for a period of time. So that is a rather separate topic to be subsumed on the overall training curriculum for VET teachers. But I was trying to limit myself to the actual mechanisms of training in the sense of integrating the theoretical with the practical.

MUSTAFAI : Is your approach the same for in-service teacher training and pre-service teacher training or is there some differentiation?

OLDROYD : I was mostly talking about in-service training. Because obviously there's a vast need for in-service training in all these European countries. We have a large work force of teachers who've not had the benefit of initial training in this field. The refinement of the second example I was going to give you, has been mostly developed in initial training where there is a set of national standards which are in fact set out for all aspects of teacher competence. It's inspired by many of the other sector models of the sort Edwin is familiar with. The essential links between the schools where initial teachers are trained and the colleges have been specified in great detail. There's been a big shift in resources from the colleges to the schools. In our particular school 24 weeks of a 36 week teacher training course are in the work place and there's an elaborate committee structure for planning the curriculum both in the college and in the work place. There are professional tutors in the schools viz. in the work place who manage the subject and specialist tutors, who then liaise with the college tutors. So the structures are highly developed and based on a national framework of standards and they are then enforced by a very rigorous national inspection system. Every two years the school - college partnerships are inspected by external inspectors. So it's a type of power cohesive innovation which is top down. And I would have, had I had time, ended with this particular transparency about strategies, because this represents the approach in Britain. The first example I gave you was a bottom up initiative where one institution devised an action research approach which it then marketed and eventually developed in both Britain and Poland. The initial training strategy was top down legislation, national standards, enforced by inspection and then at local level these partnerships worked out in detail. And then of course lateral diffusion. That's the third option where good practice exists in both those systems. Governments can develop a strategy for lateral disseminating between institutions, between regions and so on. So there are three broad approaches to a strategy for planning and reforming the VET system, not just in integrated work place learning but in all aspects of course. But remember vast amounts of research suggest this "tissue rejection" phenomenon. The most important barriers to any education innovation are inherent in the setting into which you introduce the innovation. So it doesn't matter how clever your innovation is, it doesn't matter how sophisticated your strategy is : the innovation must fit the setting, it must grow with the setting. The absolute base line for any innovation is to start from where you are. If your country has no resources then you opt for the type of strategy that Natalia (Kalandarova) was telling us about yesterday which doesn't cost any money but which brings about a nice integration between schools and the work place.

CHAIRMAN : Thank you Ladies and Gentlemen, on this note I would like to end the second day of our workshop.

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PART V

HOW TO IMPLEMENT THE CONCEPT OF IWL? WORKING GROUP PRESENTATIONS

WGI : How to Bring the Educational Institutions Nearer to Work?
Rapporteur : Angelca Ivancic
Facilitator : Martina Ní Cheallaigh

WGII : How to Bring Learning into the Daily Work Procedures of Companies?
Rapporteur : Frantisek Bartak
Facilitator : Günter Kutscha

WGIII : Didactic and Methodical Implications of the Integration of Work and Learning
Rapporteur : Gerhard Herz
Facilitator : Istvan Bessenyei

WORKING GROUP I: HOW TO BRING THE EDUCATIONAL INSTITUTIONS NEARER TO WORK?

Angelca Ivancic

Facilitator :	Martina Ní Cheallaigh	CEDEFOP
Rapporteur :	Angelca Ivancic	Slovenia
Participants :	Tonis Arvisto	Estonia
	Andras Benedek	Hungary
	Mihaly Fedor	Hungary
	Tadeus Kozek	Poland
	Romualdas Pusvaskis	Lithuania
	Bernard Raynaud	France
	Veronika Šlander	Slovenia
	Dan-Ioan Vaidenau	Romania

The discussion in this group focused on three sets of questions :

- What the co-operation between educational institutions and economy is like, on which levels does it exist, and in what forms?
- What are the main problems hindering this co-operation?
- What can be done to improve the situation?

The participants agreed with the facilitator that these questions could be answered by getting acquainted with the main features of the communication between particular economies and educational institutions in participants' countries. The discussion began with presentations of the situations in the countries represented in the group.

A. Main characteristics of the present situation

Since almost all the participants were from the partner states where the transition process is in full swing the discussion revealed almost identical situations. The VET system, which in former communist regimes was entirely state regulated and school-based, was described as unsuitable for the emerging circumstances characterised by constant, rapid, and profound changes in economy and extremely unstable labour markets. Although some forms of co-operation were established in the past, they collapsed at the beginning of the 1990s when training centres in companies became state-owned or were closed down due to lack of money.

It was emphasised that industry is interested in participating in vocational training as long as it is cheap and flexible enough to effectively meet the changing demands; the old system is not organised in a way to enable this. In such a situation, employers' needs for qualified labour are met by hiring workers from external labour markets. It is also true that the short-term profit oriented culture of newly emerging entrepreneurial and managerial structures is not inclined to invest in training. Moreover, regardless of the economic restructuring in the partner states, the work process in many companies is still based on the Taylorist division of labour and low-skilled labour available in abundance on the labour markets. Big multinational companies in the partner states, as elsewhere, are forerunners in training their staff and introducing new types of work organisation, however they are mostly only self-serving.

The discussion confirmed that the participation of the national and local economies in VET (established by developing the social partnership and a dual/alternating system of training) is an important feature of educational reforms in progress. The suspended introduction of these processes in individual partner states is perpetuated by the constant lack of funds and expert knowledge together with a reluctance on both sides to invest in the development of co-operation. It is characteristic that the educational system is the initiator of the co-operation. For the time being the school-based VET continues to prevails, while other forms still remain on a very rudimentary level.

Together with the systemic forms some unilateral co-operation spurred by economic interests is being developed. This mainly concentrates on the training and retraining of the employed. The cases indicating such co-operation are work simulation projects backed up by consultants from companies (Lithuania), vocational schools organising computer training (Romania) and school workshops operating on commercial grounds (Poland).

B. Summary of the most important factors hindering the development of co-operation between educational institutions and economy

The participants agreed that among the problems the partner states are facing whilst trying to intensify co-operation between educational institutions and economy, the following seem to be the most acute :

Global level :

- lack of financial resources;
- non-existent legal regulatory mechanisms;
- under-developed communication between social partners;
- under-developed institutional channels facilitating communication of social partners;
- absence of participation of social partners in VET on regional and local levels.

Economy :

- unstable labour markets;
- bad financial situation in companies;
- prevalent Taylorist organisation of work in many companies which is based on low skilled work;

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- organisational cultures not in favour of investments in human resources;
- distrust between schools and companies;
- absence of adequate financial incentives for companies;
- limited possibilities to influence the content and execution of curricula.

Educational institutions

The factors, originating in educational institutions, which emerged during the discussion as major barriers to the development of an effective communication process can be defined on three levels : curricula, teachers, and school-management.

Curricula :

- do not meet the needs of industry;
- are too rigid to adjust quickly enough to changes in labour markets;
- decision-making concerning contents and modes of execution are centralised;
- representatives from the economy are excluded from the examination process.

Teachers :

- lack of competence required to introduce changes in the teaching process;
- unwillingness to communicate with companies;
- bureaucratic approach at work which entails rigidity and conservatism in the process of teaching, and unsatisfactory organisation and time allocation to the needs and potential of companies and their staff.

School-management :

- head-teachers and school managers lack the management skills needed to initiate and implement reforms.

C. The summary of possible changes in the future

At the close of the discussion, a series of possible activities for the improvement of the current situation were formulated, and are listed below.

1. **Development and strengthening of social partnership in VET.** Involvement of social partners in the VET system development and implementation is one of the key factors for effective co-operation between schools and companies. However, the involvement should not be limited to the national level - it has to be implemented on regional and local levels too, where training needs are assessed and curricula executed. The importance of employers' participation (Chambers) has already been acknowledged, while trade unions are, in most of the partner countries, either a weak or completely passive party. It is essential that they participate actively.

2. **Provision of legal regulations.** Legislation is important as it determines the competencies and responsibilities of the main parties, as well as the institutional means of exercising these competencies and responsibilities. The role of the social partners at national, regional, and local level should be laid down by law. Financial interests are also to be determined by law.

3. **Establishing an appropriate funding.** Highly inadequate financial resources earmarked for training are a common denominator in all the partner states. It is necessary to establish a system of financing VET which would enable social partners to have a say in the managing of funds. This could be done by setting-up educational funds to be financed by imposing a training levy on employers and managed on the principles of social partnership.

4. **Introduction of financial incentives for employers, mainly through tax reduction.**

5. **The dual system is only one form of co-operation between education and economy.** It is unrealistic to expect firms in turbulent economic conditions to increase the number of training places; school workshops will most likely represent an important framework for carrying out training now and in the future. In addition to this, it is also necessary to stimulate those forms of co-operation which emerge from economic interests (e.g. training for the specific needs of enterprises, exchange of training staff, etc.).

6. **Greater degree of decentralisation in development and execution of curricula has to be assured.** Setting the educational standards should be centralised, whereas the execution of curricula has to be flexible and should meet the needs of industry. The development of modular curricula would contribute to this. Additionally, social partners should participate at all stages - in development, execution and examination.

7. **The professional competence of the VET teachers needs to be examined.** With the assistance of the economy, continuing in-service training courses should be provided in order to develop the skills which would help them act flexibly in terms of being able to switch among different vocational subjects and different target groups (young people and adults), as well as to be open to innovations. Moreover, the training needs of head teachers and school managers need to be assessed and training for the acquisition of the required managerial skills provided.

8. **Participation of representatives of industry on school management boards.** The opportunity to participate directly in decision-making regarding work in schools is an important factor which could strengthen trust between schools and companies and thus encourage co-operation.

Although the partner states are encountering similar problems which hinder co-operation between the educational institutions and the world of work the discussion confirmed that each of them uses their own specific ways to overcome these problems. All agreed that the exchange of experience from activities implemented in individual states would be very helpful. In addition, support of the European Training Foundation would be most welcome by establishing an effective system of communication between social partners.

Discussion

CHAIRMAN : Is there anyone in the working group who wants to add something, maybe the facilitator or some other participant in the group . . .

NI CHEALLAIGH : I'd just like to underline the fact that one of the big problems that was discussed was this communication problem between the school and the enterprises and how to overcome it. At the moment there seems to be a lack of interest on both sides to get involved with each other or to enter into co-operation Therefore, it was felt that this could be overcome by going above the school/ industry level and involving the Social Partners. Also they should really be involved at every level; at national level; at regional level; at local level and then especially in the management of the vocational schools. So that you've got representation from industry in the selection of courses and in the development of curriculum both in the school and at national level and for setting the standards for the curriculum and the qualifications.

CHAIRMAN : OK. Thank you Martina. So, again we find a lack of interest from both sides, from the school side and from the economy side to get in contact with each other. The reason may be that for decades the schools have been a kind of closed shop and today the economy, the businesses, the companies have their own problems and maybe vocational education and training doesn't have the highest priority. So you say: when this discussion isn't working on the basic level then the social partners should be requested to take over their responsibility and initiate this co-operation from a much higher level. Ms. Ivancic you said that here in Slovenia you have a school board on which the parents and the enterprises initiate the execution of certain programmes.

The other point was the curricula itself. I think you suggested that teachers want to stick to their own curriculum and fear that this beloved curriculum could be damaged, if they open themselves to companies.

Another point you mentioned is that the enterprises doubt that the schools can really help to overcome their problems with a curriculum because this is mostly centrally planned, centrally developed and enterprises wanted to have a say in developing this curriculum or at least have a say in carrying out what is laid down in the curriculum. So I think this is the broad field that should be established in the countries concerned.

The last point was that it is necessary to train or retrain the school managers. That has to do with school organisation. I think that the prerequisite for co-operation or a link between schools and business is a school re-organisation which caters for real-life situations i.e. getting in contact with people outside schools and speaking with them. That's what I have understood. Did I miss something?

IVANCIC : Well, probably something very important which was discussed in the group and I forgot to mention concerns the civil servant status of teachers which may make communication between enterprises and schools difficult. Business often considers teachers as time servers who are paid irrespective of results and therefore don't listen to the needs of enterprises. Perhaps it would be really useful to re-think the teachers' status where vocational teachers are concerned.

BENEDEK : In the workshop most of us were from the Central and East European countries, Estonia from Latvia, Lithuania, Romania, Hungary and Poland. I think our experience can be described by a parable: in our countries VET is like a lady who would like to dance with the boys from Privatisation. But they don't like to dance because they have other tasks, they have to make money. Now, we have to arrange the ball and first we have to involve new communication facilitators - of course these are the Social Partners, the Chambers and so on. This is not as easy as it would be in the West with decades of experience in social partnership. And sometimes I think, even achieving a general level of understanding is not so easy because we are coming from very different backgrounds. Schools and vocational training institutions are more inclined to teach by experiment and often miss out on technology whereas companies have to be oriented towards practical work.

CHAIRMAN : So I understand from what you are saying that integration of work and learning will come, will have the impetus from the schools first and not from the enterprises. Is this a correct summary?

BENEDEK : Not quite. What I'm trying to say is that the social dialogue necessary to establish it is determined by the interest of the parties. The state can influence this interest through taxation, financing and the legal system. To come back to my ballroom example: it's not enough to say that this dance is very nice but someone has to pay the band. Maybe my imagery is somewhat confused.

CHAIRMAN : No, I don't think it's very confusing. I understand the metaphor quite well I guess. Yes, Martina...

NI CHEALLAIGH : There was one point that struck me in the contributions of the participants from the Partner Countries. Our discussions of yesterday may be too early and quite detached from the actual discussion that's taking place between the school and the enterprise in the Partner Countries at the moment. Sure the future belongs to the autonomous action taker. But in the Partner Countries that stage hasn't arrived yet. On the other hand there's still a need for some of the Tayloristic qualifications. Many companies still need people who push buttons and they still have to be trained in how to do this. In a lot of cases this is still the level of what companies request. So I think in some ways we were at different stages of the debate and that needed to be cleared up. In many of these countries the school system is so firmly established that even though the enterprises are perhaps more open to change, the change really has still to come. At least the existing VET system has to be opened up and has to approach enterprises. In fact there are quiet a few examples of good practice of schools opening up towards business and these should be built on.

CHAIRMAN : Martina thank you for this very important remark, the question then that should be put is : are the problems different in the Partner Countries? I mean integration of working and learning, the paradigm of action oriented learning, the paradigm of competence and all these things we heard yesterday, does this come too early for the Partner Countries? So is it necessary to declare that we have different problems or could we say we have similar problems but at a different stage? Can anyone answer that? I would prefer someone from the Partner Countries.

PUSVASKIS : I would support the last suggestion : we have similar problems. Therefore, I would not agree that the programmes discussed yesterday are too early or too high a level for the Partner Countries. I think they are very, very important for all of us. We have similar problems but we have economies at different stages of development. Right now, in our countries our business people see making money as the highest priority. They think that once their companies have money they can buy the necessary human resources and it would be foolish to invest in VET at this point in time. Therefore, the school side has to take the initiative. That's why we invite the Social Partners to participate at all levels. We have to change our legislation to allow and force our Social Partners to participate in decision-making. Decision-making is key, of course. If the VET system does not open up curriculum development or teacher training to the necessities of enterprise and its contribution we cannot 'legislate' co-operation.

CHAIRMAN : I agree, you should start from where you are. You come from a school system and you should start there. The other point is the difficulties in the economy. As Mr Benedek said, many of the companies are new ones and have yet to establish themselves in their markets. They are not familiar in linking up with schools and the school system and so on. So maybe that is another point that we should keep in mind. Are there any other points? OK, then I would like to close the discussion of the outcome of Working Group 1.

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WORKING GROUP II: HOW TO BRING LEARNING INTO THE DAILY WORK PROCEDURES OF COMPANIES?

Frantisek Bartak

Facilitator :	Günter Kutscha	Germany
Rapporteur :	Frantisek Bartak	Czech Republic
Participants :	Janja Meglic	Slovenia
	Alenka Puèko	Slovenia
	Alenka Zelenië	Slovenia
	Peter Grootings	Poland
	Oriol Homs	Spain
	Fedor Mihaly	Hungary
	Edwin Nelson	United Kingdom
	Johann Steinringer	Austria

1. The participants

The participants of the working group came from very different backgrounds and country situations which stimulated the discussion. There was a mix of delegates from EU countries (D, E, UK, A) and from the post-communist countries of Central Europe (CZ, SLO, PL, H).

All of the delegates were well versed in their national systems of vocational education and also in the European dimension of VET.

Many participants were representatives from ministries, universities and research institutes. Slovenia had invited representatives from the social partners, so that all facets of the VET system were present. Five of the participants of the working group were also the authors of the important contributions for the plenary session.

2. Information exchange

The first part of the discussion in working group 2 was dedicated to the exchange of information. All participants made a brief introduction of themselves, their institutions and outlined their points of view on the problems of Integration of Work and Learning (IWL) in general (a partial overlap to the topic of working groups 1 and 3).

Later on the discussion naturally moved to the main topic - how to bring learning into the daily work procedures of companies.

This general discussion highlighted some important facts :

- The vocational training systems in each country are different. The training itself can be organised as in-company training (almost completely or at least predominantly) or its larger part can be carried out at schools, school workshops or in simulation. The subsequent discussion dealt with cases where training is done in companies.
- practical training is a very complicated and sensitive process, it cannot be planned at the "green table", there is always a need for experimentation and real experience.
- learning is one of the ways to overcome the barrier between the theory and the practice
- when carrying out practical training, it has to be assessed which consequences the concrete steps have for the individual and for the institution (organisation) and how these consequences complement each other or are in conflict.

3. Conditions for in-company learning

All participants of working group 2 agreed that not all institutions have the right prerequisites for successful training. For a high-quality training they have to fulfil some important conditions on two levels :

- the institutional level (firm, company)
- the individual level (employee level)

At the beginning there was no clear idea about these layers and the discussions succeeded in formulating the following conditions grouped by level :

a) for the firm

- It has to be of high quality, client-oriented and competitive.
- Learning must be a part of the firm's philosophy, it has to be seen as part of its identity.
- The company has to adjust its structure and organisation to being a learning organisation, and ensure sufficient finances for the necessary changes.
- Top and middle management have to be responsive to the specific demands of the training.
- All the necessary machines, tools and equipment have to be made available.
- The firm has to review its staff development and create the conditions for the new role of its employees : to act as trainers.

b) for individual employees

- Employees have to be positively motivated for the in-company training, and some of them have to accept the position of a trainer.
- The training should be perceived as social competition.
- All employees should assess their personal and professional development.

4. Remarks

In the course of the discussion not only the basic conditions were identified , but also some other aspects were brought up.

- Some concrete strategies and methods were recommended (quality circle, application of knowledge, reflection on action, learning organisation as a strategy, etc.)
- The need for training has to be answered according to the specific conditions. The choice of implementation depends on :
  - the size of the enterprise (large, medium or small) ;
  - the age and sex of the trainee.
- The complicated problem of a legal framework and financing was not discussed. It would alone merit a workshop.

5. Summary and recommendations

The participants of working group 2 appreciated the work of the organisers from ETF and from Slovenia and thanked them for the possibility to join the workshop.

They highly recommend an integration of the outcomes from all three groups and its publication. They support the idea of arranging regular workshops every year.

Discussion

CHAIRMAN : Thank you, Mr. Bartak. I have the feeling that was a Western inspired Working Group contrary to the first Working Group which was more inspired by Partner Countries. Is that so, Mr. Bartak? OK, so maybe we have lots to discuss from the Partner Countries side or from the conditions in the Partner Countries. Would anyone from the Partner Countries like to take the floor?

KUTSCHA : We had a very interesting discussion because some of us came from a large company firm and Ms. Meglic from the crafts' side. So we discussed quite different forms of integration of work and learning because the main problem in big firms is that the jobs are specialised, the workers see only their own department. In the crafts there are other problems. We should emphasise the difference between working and learning. This may surprise you but we always speak about learning organisations and learning and so as a consequence each firm whatever it does could say 'yes, we work and so we learn'. And so the impetus is not there, when working is learning and learning is working there is no need for any action. I think it's very important to make it clear what it means to bring learning to work. It must be a kind of organised learning otherwise

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firms say 'well, further education and training takes place everywhere in our firm and so we are very good learners' and nothing has to be changed. It's very important to highlight the points of learning and to mark the part learning has in the firm's philosophy. A firm is primarily not a learning institute, the firm must have marketable products of good quality and operate with a client-oriented approach. Within this scenario the whole of the company must realise that in order to remain a good firm everybody has to learn. Each worker must internalise that it is not a manager who says ' please learn' but that they have to learn to stay competitive as a individuals and thus ensure the competitiveness of the company as a whole. Here learning is not connected with dependence as in children's learning. The adults must be able to motivate themselves because it's important for them and for their company. It's not a question of labelling, to say we are a learning organisation, only people learn. The organisation has to set up structures which facilitate learning. That is the difference between organisations on the one side and individuals on the other.

CHAIRMAN : Thank you for this further explanation. I think it's important to have this difference made clear and I can imagine that you had a lot of discussions on this point because it's not easy to explain how learning can come to work? Any other comments? Yes, Peter . . . .

GROOTINGS : Yes, I would shortly try to relate what we discussed in our working group with what Mr. Benedek said about the different conditions in most of the Central Eastern European countries and the relevance of what we are discussing here for those countries. I think there are more similarities. This conference presents the current debate about integrating work and learning in the most advanced companies. Now there are advanced companies in the Partner Countries and there are laggards in the West. Our present discussions are relevant to advanced companies everywhere. Equally the issue of integrating working and learning is an old issue and has always been part of vocation education and training. Not so modern companies in all countries face the problem of how to implement. I think there are common problems all over Europe which need to be defined more specifically. They are hidden under this broad umbrella of integration of work and learning. But they are certainly there and because they are there it's useful to continue these kinds of exchanges and work together but at the lower level of 'specificity'.

CHAIRMAN : Peter, thank you for this remark. I'm pleased that our workshops have such a broad relevance.

BENEDEK : As Peter said it depends on the type of companies. Let me tell you about our reality in Hungary. We are very satisfied with large international companies which create many hundreds of new jobs and bring well thought-out structures for human resource development and career planning and all that good stuff. On the

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other hand there are the small start-ups where the job life-expectancy is less than one year. It means that sometimes small companies do not develop any long-term view in organisation and training because their business changes too fast. Nevertheless the participation in adult vocational training has doubled in the past few years because society has learned to use the training facilities. Very often the individuals are highly active in the learning process because they want to be prepared for change and the challenge of finding better jobs.

CHAIRMAN : Thank you. I think that's a remarkable point. Another point? Another question?

KOZEK : I would like to add that we have a similar phenomenon in Poland, and we forgot about it in our discussions, that individuals are ready and willing to invest in their training, maybe enterprises are not but individuals are. It is a very positive phenomenon especially now when the society is still relatively poor.

CHAIRMAN : What I understand Mr. Kozek is that the individuals want to learn and want to be trained . . . .

KOZEK : And most of all, that they are prepared to pay for it.

TANG : Just a couple of remarks. I think it's very important for these types of meetings to have participation from the Social Partners. We or ILO also organised a similar kind of workshop, but most participants came from educational institutions, vocation education institutions. So we kept talking among ourselves about what we should do. But nothing really came from our customers. So I think this meeting here is very beneficial to all the participants. Another thing I'd like to mention is our experience with big enterprises. Training is no problem for them at all. We don't have to worry about them because they have money, they have resources, they set up their own schools. Normally our problem is how we train the workforces for the small and medium-sized enterprises. They need skilled people but they don't have the resources and the capacity to train them. What we can do as vocation education institutions is to strengthen the links to these kind of enterprises that are very, very weak in our experience. I would like to suggest that the next work shop of this ETF series could discuss the links between vocational education institutions and the small and medium-sized enterprises.

CHAIRMAN : Thanks, Mr. Tang. That points in the same direction as Mrs. Kalandarova' remarkable contribution on the first day. On the one hand we have small companies who want to set up a business, don't have equipment and don't have buildings and rooms. On the other there are schools which are well equipped and not fully used. They should come together and maybe learn from each other so that the vocational schools or the vocational institutions become more than a school : a kind of meeting place between work and learning using the equipment, the rooms and maybe the whole site of the schools. I think it's interesting to think about this. And I spoke to Mrs. Kovac about it. Mrs. Kovac immediately said 'yes, that could be a point for coming together with the Ministry of Education. So I think that should be discussed further. I just wanted to transfer to the Partner Countries what you said about small and medium sized enterprises. Was there another point?

GROOTINGS : I think there are some strategic implications on how the discussion is going now. If it is indeed the case that on the one hand there is the need to improve or to intensify or to renew the integration of work and learning, but on the other hand the majority of enterprises are not able to contribute for whatever reason, - because they are in crisis or because they have short life cycles, or because they simply don't have the money or the facilities, - then the educational institutions have a big political responsibility to take the first step. I would like to pay a compliment to the Slovenian Ministry of Education because they were the ones who realised that they have to be proactive in a situation where the economy, the enterprises and mostly the Ministry of Labour are not yet ready. But that of course can only happen if it's accepted that at this stage of development the initiative is not so much with private industry but still with the State and educational authorities. Then the whole discussion gets a different flavour. Instead of focusing, as we are used to in our countries, on saying education has to become more labour market relevant, the discussion changes. In order to be labour market relevant which is the aim recognised by the education authority, education has to be proactive. How to organise this is completely different from what we have discussed so far. Especially it means to create facilities for integration of work and learning outside enterprises.

CHAIRMAN : Therefore I have said that it is a good example to create this place within the sites of the schools and not outside the schools. But Mr. de Rooij said something along these lines in his introductory speech when he said the impetus has to come from the education side here in the Partner Countries.

KUTSCHA : What Peter said has implications for the didactic methods. A pedagogic institution is not only concerned with the question of how to learn, how to build up a knowledge and so on, but also how to apply knowledge. In order to apply knowledge that you have learnt at another place, in schools for example or workshops you must integrate it, you must now bring in two forms under one new reference frame. And it is not easy to transform the knowledge because knowledge in external institutions, outside the firm, is always organised in such way that it is 'systematic'. It should be relevant for different conditions and so on. Now within the firm, you have to organise this knowledge for application and you must be given time for this task. You cannot just say, ' Well you were on a course and now apply what you have learnt'. Learning firms must have special forms, e.g. transferable media. So there is a new debate which we discussed in our group. There are two questions. One is how to bring learning into the working place which can mean from the outside into the company. The other one, and it's quite a different question is, how to learn within the firm, within working places.

CHAIRMAN : I think I should close the debate of the second Working Group now . . . .

WORKING GROUP III: DIDACTIC AND METHODICAL IMPLICATIONS OF THE INTEGRATION OF WORK AND LEARNING

Gerhard Herz

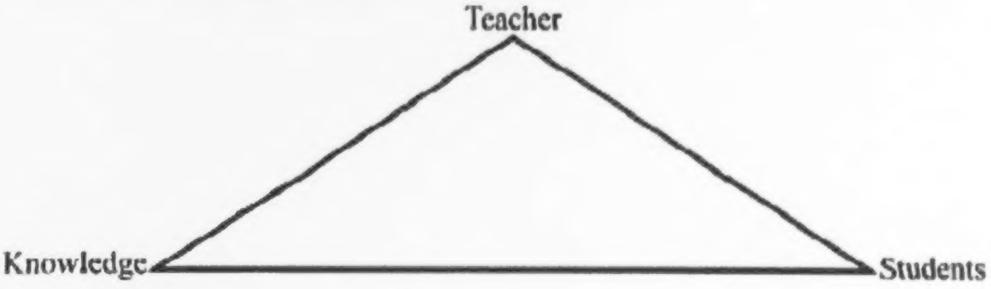
Facilitator :	Istvan Bessenyei	Hungary
Rapporteur :	Gerhard Herz	Germany
Participants :	Alqui Mustafai	Albania
	Azra Jaganjac	Bosnia and Herzegovina
	Natalia Kalandarova	Bulgaria
	Konstantin Petovski	Macedonia
	György Martonfi	Hungay
	David Oldroyd	United Kingdom
	Quian Tang	Unesco

In this working group, the participants collected a small number of different national examples dealing with the aim of IWL. It seems to be characteristic, that the approaches are very different from each other. The didactic structures are not comparable either because they have their origins in rather different educational and cultural backgrounds and financial conditions.

Examples from various countries

UK

Reform of teacher and trainer development in connection with a complex, multi-level innovation of VET is underway. IWL is apart from law, locations, processes etc., one of the main subjects in this process. In teacher training the aim is to harmonise the three main factors of the training process :



The aim is to create a didactic arrangement, which is very close to the real working situation. To realise this, the concept embraces various methods and places of learning :

- education and training (off-site)
- self-development (close to the job)
- coaching (on the job)
- The use of an IWL-curriculum is expected provide :
- knowledge for understanding
- knowledge for action
- confidence to teach and learn

In this case, we have a kind of integration of work and learning, aiming at the teachers work. One idea is, to organise teacher training not just in colleges or other places outside the real working place of a teacher, but to get close to the real (teaching)life situation, which is the classroom. The other idea is to stress on more then knowledge in so far, as "knowledge for action" and "confidence to teach and to learn" are areas of the same importance.

Albania

In the neighbourhood of an agricultural school small farmers needed machinery. The school in revenge lacked farmland, so, they set up a co-operation, in which the agriculture students worked with the machinery of the school on the land of the farmers. So the students had an opportunity to use their knowledge in a real life situation and the farmers got the work done, which they could not do without the machinery. The farmers just paid for the fuel, the students could use their professional knowledge applied to a real work situation.

Germany

A model project for the integration of a temporary "learning island" for maintenance tasks in a company designing and constructing cigarette manufacturing plants. (3000 employees, about 100 apprentices).

Pedagogical idea :

Due to the division of labour and functions, technical and business oriented tasks are too distant from each other in many companies. This project has been started to connect them more closely and integrate technical and business-oriented skills and knowledge in a practical way. The methodological proposition is, not to simulate real worklife, but to deal with real company-oriented tasks. This kind of work - and learning - should not just motivate the apprentices, but also improve the mutual understanding of the different functions and as a consequence optimise the workflow. So, one of the main targets is to find a way, where every worker is able to become aware of the departments around him/her and of the effect his/her own job has on the task of his/her colleagues. The expected result is that s/he will work with the perception that s/he is an relevant part of an overall system.

Structure :

Tasks and workplaces had to be identified, where the integration of technical, organisational and commercial factors help to optimise solving of problems. One such area was a shop for refurbishing machines for internal re-use or for selling. The apprentices work together with skilled workers of the shop. Prior to this project the whole group of workers and apprentices got a short training in team building mediation - techniques.

Concept :

A group of two to four apprentices participate in a four week project phase, in addition to their usual curriculum. The project for first year apprentices brings engineering apprentices for four weeks into the office clerks' environment and vice versa in order to get them acquainted with the thinking and the methods in the "foreign" field. The concept of the project for second year apprentices is to establish an integrated group of both professions to solve a complex problem which has economic relevance for the company : in our example refurbishing machines. Both project groups have facilitators to help them in planing, documentation and evaluation. At the end of the project, the group prepares a presentation for presenting the effects, the results and the problems to the management and colleagues. When preparing the presentation they are analysing and evaluating their working process and training co-operation in a new way.

In comparing these three very different projects, in the three different countries under three different economical, cultural and political conditions it becomes obvious, that IWL is a very wide field. Bringing learning and working places closer together in a more systematic way, will require a great amount of didactic and organisational work as well as much teacher and trainer training.

At the moment the main driving force is the economical challenge of a high demand for key qualifications. The other side, the education system or the learning place - if this still is a good differentiation for the future - has to safeguard their specific feature : middle and long range processes that are pertinent and necessary for the development of young people.

This long-term view is an important difference to the prevailing attitude in the production of goods and services. So schools have to impart more management skills and change their organisation from state-dominated centrally ruled units to self organised and autonomous entities. And they have to become more aware of their continually changing cultural and social tasks which go beyond drumming in stuff defined by the curriculum! Companies on the other hand, have to develop a kind of work process, which allows the workers and employees to learn. They have to become aware of the fact, that high profits are usually the result of a highly motivated and highly qualified workforce. It ensues that high profits commit companies to fulfil their social and cultural obligations.

Didactic and methodical implications

Under didactic and methodological aspects, we are dealing with the question of how to create learning targets, choose the contents of learning, find the adequate ways for teaching and training and to link all these factors to the biographic situation and the actual learning ability of the learner. To manage this is hard enough in a pure school or training situation. It will be much more complex, when we try to integrate work and learning!

The working group discussed some of the crucial factors :

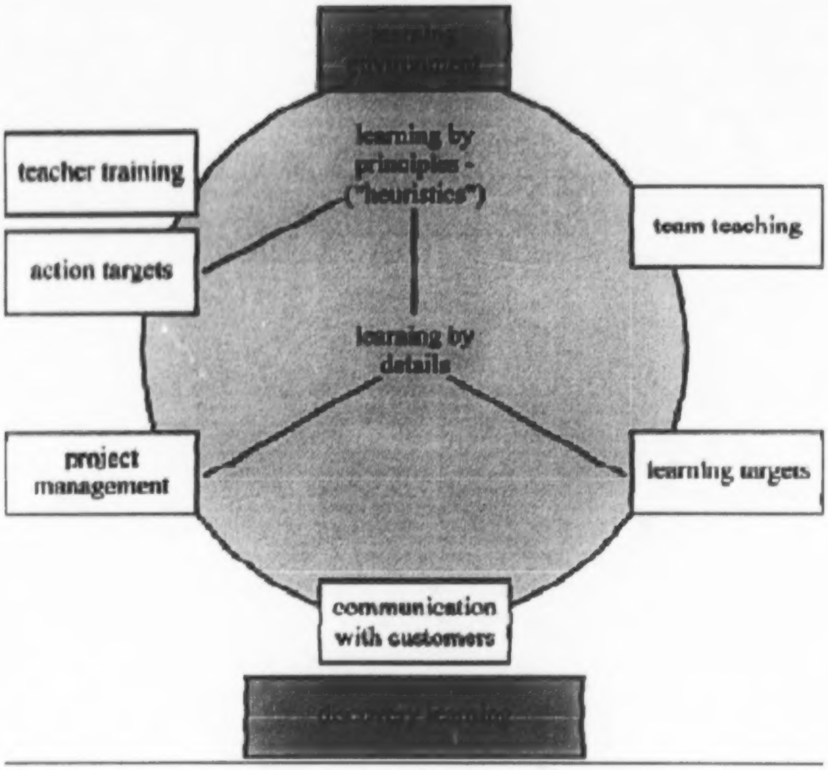
If we find a way to move from "learning by details" to "learning by principles or heuristics", we will be able to improve the integration of work and learning and to learn for upgrading the ability of professional action. Learning by details may be synonymous with learning facts and great amounts of unconnected knowledge. Learning by principles emphasises the how-to-learn aspect in order to cope with many different learning situations. In a learning process focused on this the learning contents become the media for developing abilities. This is not only important, because the contents of learning change continuously from the first to the tenth grade. Its importance is increasing for the development of societies where knowledge is rapidly growing and continually changing.

From a methodological point of view, we are restricting the field of learning if we are mainly learning by details and for narrow learning targets (e.g. "being able to list the parts of a car break"). We could and we should widen our learning potential by formulating action targets (e.g. "being able to adjust and repair a car break for good function in all traffic situations"). Action targets stress the importance of doing. It means learning with all senses, with hands and heart instead of just using the brain. That is not automatic and requires some prerequisites such as :

- teacher training
- team training
- project-management training

Furthermore, under methodological aspects it is necessary to develop and use methods which can involve the whole person. One of the main efforts has to be to provoke questions in the learner instead of answers to the teacher's questions. The traditional way of learning is to be offered parcels of knowledge in a sequence prepared by the teacher. This step-by-step method should be combined with other forms of learning in order to give the learner a more active role. We call them problem-oriented learning or discovery learning. Here the learner can leave the common and narrow path and enter other fields of new experience.

Table 1


learning environment
learning by principles - ("heuristics")
teacher training
action targets
team teaching
learning by details
project management
learning targets
communication with customers
discovery learning

Organisational questions

Decentralisation of curriculum development seems to be crucial for improving the integration of work and learning. Central curriculum development by a state committee can be very systematic and closely linked to the structure of the relevant discipline. This bears the risk of loosing contact with the real demands of the profession in a continually changing market and to produce an obsolete standard. Decentralised curriculum development, e.g. by the teachers at the schools, will be more specific and probably nearer to actual work. It can refer to the qualification demands of the surrounding companies. This closeness to the actual learning and working situation and its continuing change can reduce the risk of becoming theoretical, normative and to far away from the demands of the market.

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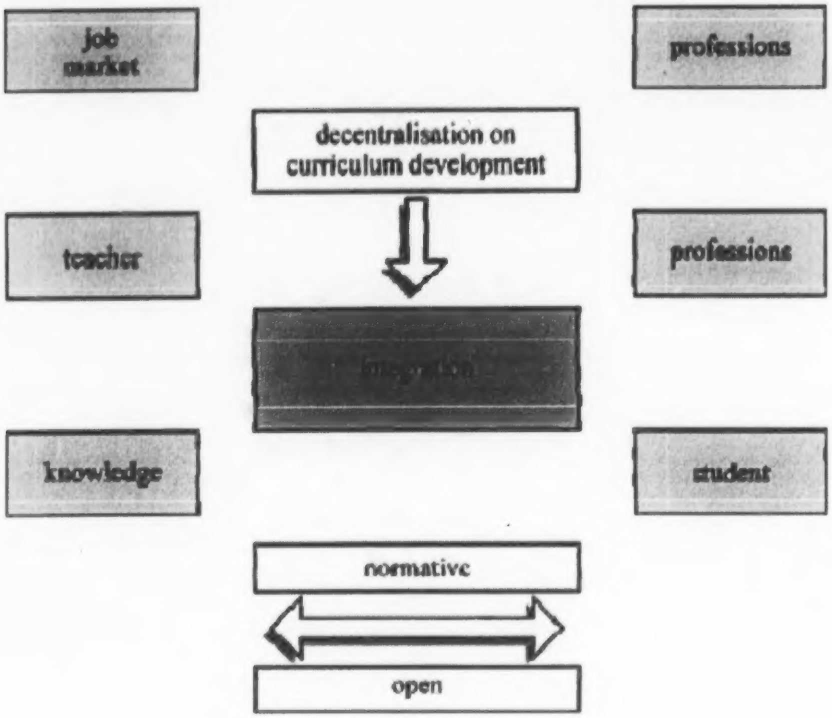
Table 2


job market
professions
decentralisation on curriculum development
teacher
professions
integration
knowledge
student
normative
open

Such an approach is realisable, if a forum for communication between all persons and functions concerned is established and institutionalised. It would not only have to deal with the actual contents of learning, but also to consider the desired "output" for the individuals, the companies and the schools. A further task would be the organisation and production of learning material and teacher training. In addition to working on this macro-level, it would be necessary to establish communication on a micro-level in order to adapt the general programme to the local conditions.

Nevertheless, any form of organisation has to pay attention to the core factors and targets of curriculum development in VET, for example teachers, students, professions, job market, knowledge and learning process.

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Discussion

CHAIRMAN : Thank you very much Gerhard. I like the example of Albania very much. It is very simple and I think I invited everybody to copy such simple examples. Just to make a link to what Peter Grootings said : Would it be possible for a vocational school to initiate such a co-operation? That is a question. Would anyone like to answer?

KOZEK : I'm afraid Polish farmers wouldn't let any pupils enter their fields.

MUSTAFAI : Only under specific conditions this co-operation can be implemented. The problem is that our agriculture schools have some machinery but no land. The farmers have land but they have no machinery, tractors, etc. So the collaboration is profitable for both partners. The farmers pay only the fuel and are happy that the land will be worked by the students. Perhaps in other countries these conditions do not exist, but the principle can be applied where the conditions exist.

CHAIRMAN : I mean the examples of Mr Mustafai and Mrs Kalandarova are similar. In both cases there is mutual benefit.

KUTSCHA : You ask for example in our countries. Some years ago my institute had to arrange training for supermarket apprentices in a school which had only very out-of-date equipment for the role plays we wanted to use. The students did not like it and did not actively participate in the role plays. We asked a supermarket to allow our students to carry out the role plays in the real shops before opening time in the morning. And it worked of course and so, I think, there are these small experiments which do not cost nothing for the schools. The school does not have to buy expensive articles which are obsolete within a short time.

CHAIRMAN : So it's a wonderful example from the poor west! Peter…

GROOTINGS : Well, there are also negative examples and today this is a negative example from Poland. Most of the vocational schools in Poland had of course practical workshops. Very often they were attached to big companies and when the revolution started at the end of the 80's, the enterprises cut the ties with these schools and the practical workshops. And the first response of the schools was to commercialise their workshops, to make them into some kind of production sites for enterprise. The problem was that students were working but they didn't learn anything because all that they were able to do were very simple manual activities in the assembly and nothing else. So the workshop became an end in itself in a sense. In order to continue it needed money, and the students were earning the money for the workshop but they did not learn. Our general challenge is not so much to connect work and learning but to integrate them. Working has to have a learning aspect otherwise it doesn't contribute anything. And that was one of the negative experiences we had in Poland in the beginning of the 90's. It's changing now very rapidly of course but it should not be forgotten.

CHAIRMAN : This morning someone told me of an example here in Slovenia. There were well equipped schools in the Maribor region which had to close because of the decline of the heavy industry in that region. Then small enterprises or people who wanted to set up small companies asked if they could use this equipment and workshops. And they did it in an informal way for some time. But then, Central Government decided to give this equipment to schools operational in the Ljubljana region. One effect was that the people who had had the chance to set up a business were again unemployed. So our anecdotal evidence indicates that this equipment question is a difficult one here in the Partner Countries.

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European Training Foundation

Proceedings of the second workshop on curriculum innovation

Luxembourg: Office for Official Publications of the European Communities

1998 – 192 pp. – 21.0 x 29.7 cm

ISBN 92-828-3440-9